

Needs Assessment: A Workshop

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Introductory Matters

- Introductions
- Agenda
- Objectives
- Sources
- Participation quiz (not scored)

Today's Agenda

- Introduction (20 Minutes)
- NA & terminology (70 min. with concept exercises)
- Break (10 min. & introduction of puzzles)
- Getting started (80 min. procedures & exercises for starting a NA in your organization)
- Lunch (1 hr.)
- Brief overview of NA surveys & data analysis (75 min. w/ hands-on exercises)
- Break (10 min. w/puzzle solutions)
- Prioritizing identified needs (70 min. w/ hands-on exercises)
- Wrap-up (10 min. summary & remaining NA issues in NA)
- Workshop evaluation (5 min.)
 - Concept of mini workshops embedded in our day together

Workshop Objectives

Foremost to...

- Understand what is meant by "need" and "needs assessment (NA)"
- Know what is involved in the complete NA process
- Know the various subtle aspects of NA (via exercises)
- Know the relationship between NA and evaluation
- Gain experience in starting the NA process
- Develop sense of surveys used in NA, their analysis, & portrayal of the data
- Gain experience prioritizing needs identified by the NA
- Question, exchange ideas, and engage in a NA dialogue
- Gain understanding of how NAs are conducted
- MOST OF ALL...have some fun!!!

What is an Altschuld?

- Impossible name, sounds like a sneeze when said fast
- Horrible 27 year plague inflicted on students but now emeritus
- Charming, likeable person (biased opinion)
- Wealthy, teaches/evaluates for the fun of it
- Taught/developed program evaluation sequence at OSU along with educational research
- Research & evaluation projects in education, business, & government agencies
- 40+ years experience
- Grandfather - Andrew (~ 13) & Lindsay (10)
- Still engaged in evaluation projects (1 active)
- Numerous publications & others on drawing board
- Several prior NA books & editor, author & coauthor of the 5 book series – The NA KIT (Sage)



Still trying to figure out what I want to do when I'm all grown up!!!

What is a White?

- Just like the crayon
- Survived the "Altschuld" years
- Must work for a living but enjoy teaching and evaluation work
- Teaches educational measurement & assessment, program evaluation & quantitative research - UL, Lafayette
- Educational research & evaluation projects in state government, health care, education & human service agencies
- 20+ years program evaluation experience
- Engaged in evaluation projects (active & pending)
- Co-author of *Needs Assessment: Analysis & Prioritization* (Book 4)



Needs Assessment KIT

Available from Sage at this time

- Book 1: Needs Assessment: An Overview
Altschuld & Kumar
- Book 2: Needs Assessment Phase I: Getting Started
Altschuld & Eastmond
- Book 3: Needs Assessment Phase II: Collecting Data
Altschuld
- Book 4: Needs Assessment: Analysis & Prioritization
Altschuld & White
- Book 5: Needs Assessment Phase 3: Taking Action for Change
Stevahn & King
- Any idea who the KIT Editor might be?

Also see Witkin & Altschuld (1995); Altschuld & Witkin (2000)

A Short Participant Quiz

Actually Implemented an NA?	_____
Education	_____
Mental Health	_____
Government	_____
Business	_____
Other	_____
Involved a Steering Committee (NAC)?	_____
NA for – Receivers of service?	_____
Deliverers of service?	_____
Supportive system?	_____
Combinations of above	_____
Has NA resulted in – Priorities?	_____
Organizational actions?	_____
Not much?	_____
If you did an NA, how much frustration did you experience?	
A little	_____
A moderate amount	_____
Tons	_____
Forget about it!	_____

Section 1

- Concepts
- Terms
- Principles
- Examples
- Situations
- Relation to Evaluation
- Hands-on Illustrations

Definitions & Issues

Need: the measurable discrepancy between “what is” or the present state of affairs in regard to the group and situation of interest and the “what should be” or desired state of affairs (Witkin & Altschuld, 1995).

Issues: measurable discrepancy is the key

- needs not solutions (premature closure on solutions)
- verb vs. noun concept (misuse of the word)
- ‘desired’, ‘likely to occur’, ‘ought to occur’, etc.
- wish and want lists
- many types of needs

More Terms and Concepts

NA is a systematic set of procedures undertaken for the purpose of setting needs-based priorities and making decisions about organizational improvement and allocation of resources (Witkin & Altschuld, 1995).

Issues

- context for the NA
- readiness for an assessment
- NA is an organizational activity
- political aspects to the activity
- systems concept and how to think about it

Lots of subtle aspects of need and NA

Examples

Typical Situations

Types

Why do it and how does it relate to evaluation

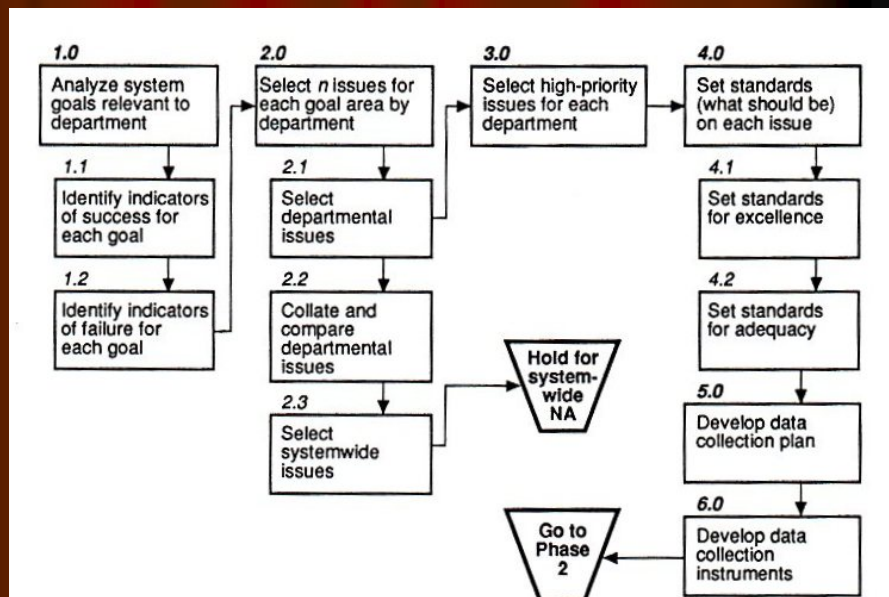


Table 1 Examples of "What is," "What should be," and "What is likely" States

Area	What is	What ideally should be	What is likely
Health	30% of U.S. is overweight	100% at or near a reasonable weight for age, height, gender, and body build	75% will reach the standard within a 5-year period
Mathematics	62.8% of district students achieve the state standard for the 4th grade mathematics test	100% reach the standard or 75% reach the standard to remove the district from possible state sanctions	65% or more achieve the standard by this time next year
Reading	75% of 8th grade students read and understand the instructions on an aspirin bottle or on a bottle of patent medicine	100% should be able to do the task	85% are able to do the task 2 years from now after exposure to improved reading instruction
Youth Recreation	A community does not have a recreation center and adequate recreation activities for youth	A recreation center will be built and open 5 years from now Within one year a recreation program will be started in the community	The recreation center will be a reality 10 years from now A small recreation program will start in 2 years and slowly expand

Immunization	The inoculation rate for pre-school children in a particular state is currently at approximately 70–75%	A rate of 90–95% will be achieved thus greatly reducing the likelihood of increasing the incidence (spread of certain diseases)	Rate of inoculation will slowly increase to 80% over a 5-year period. Rate will remain the same without understanding the causes of the problem
Wealth	An individual is currently worth \$1,000,000	With inflation and worries about job stability, the individual would prefer to be at \$2,000,000 to feel more secure	\$1,500,000 would be likely in light of the general growth of investments within a 10 year period
Driving While Under the Influence	9% of all drivers during the period from 1-4am on weekend nights are above the legal limit for intoxication	Nearly 0% with rigorous law enforcement procedures, more sobriety checkpoints, and stiffer penalties	3–4% even with the procedures specified in the previous column
Overall Education System	Current state standards for courses and areas required for a high school degree	Given possible changes in knowledge and the world of work, what standards should we develop for children now entering the educational system and who graduate in 13 years	What are reasonable expectations for change in complex multidimensional systems like education

Typical NA Situations

General

- Library system seeks information about needs of users in communities
- Federal task force collects data about health/health care needs of Americans
- Schools seek consensus on educational goals for the future
- Municipal visioning process that leads to action plan for future programs related to important needs (traffic, arts, development, etc.)
- State university system studies needs for its future in regard to an emerging competitive marketplace

Education

- Curriculum alignment in the U. S. (standards-based movement)
- TIMSS – Worldwide (now PISA)
- Mechanical Engineering at OSU

Other

- Easy to come up with examples from aging, social welfare, health care, military and other fields

Table 2 Types of Needs

Type	Characteristics	Comments
Present (short-term) versus Future (long-term)	Some needs are short-term in nature (three years or less with an emphasis on less) Long-term needs will generally be three years or longer into the future	Groups will focus more easily on short-term needs, i.e., ones that they can see being resolved in lesser periods of time Longer-term needs, more difficult to mobilize support for and to develop commitment of groups to their resolution
Severe versus Slight	Some needs will be considered to be severe (larger in scope or of more consequence) Others will be of not so great scope and not represent as a great an underlying problem	Severe or major problems will be more complex, harder to deal with and resolve, and will take more time and resources for resolution, and so forth As in the prior row, it will be easier to develop enthusiasm for solving slight needs
Maintenance/Upgrade	Does not indicate a direct discrepancy at the current time, but will become a need if a service, level of skill, etc. is not maintained or upgraded	All systems and skills need maintenance which if neglected will lead to problems (discrepancies) if not maintained and/or upgraded
Collaborative	NAs carried out by collaboration either between two (bilateral) or more (multilateral) cooperating institutions or agencies	Organizations sense or feel that collaboratively (mutually) assessing needs and solving them have advantages for each involved agency and institution

1 (Levels Recipients of Services), 2 (Deliverers of Services), and 3 (System Supporting Levels 1 and 2)	Level 1 deals with needs of those who receive services, Level 2 focus on those who deliver services and what they require to do so, and level 3 relates to overall needs (funds, facilities, etc.) of the system to support level 2 and, in turn, Level 1	Many times NA are carried out at the second or third levels rather than at the first one Level 1 is to be stressed since it is the reason for the existence of Levels 2 and 3
Asset or Capacity Building	Approaching the issue of change not from a discrepancy point of view, but from that of building and capitalizing upon assets and strengths rather than deficits or needs	NA always starts with needs or problems instead of strengths In community oriented situations it is more positive to think about the strengths of the community and how to use them than by focusing on needs or negatives
Retrospective	Retrospective needs are assessed generally after a project or a program is underway and is at the point of undergoing a summative evaluation. If there has not been a prior NA or if questions arise as to what or whose needs are being served, then the situation might call for a retrospective assessment of needs	In general, retrospective assessments of need are not often found in the literature. An early citation regarding this concept is in the Program Evaluation Kit (1978) as used in conjunction with the evaluation of a program This is a catch-up mechanism employed when the need for a project was not established previously or an unanticipated or different Level 1 group than intended is utilizing project resources

Altschuld & Kumar, (2010)

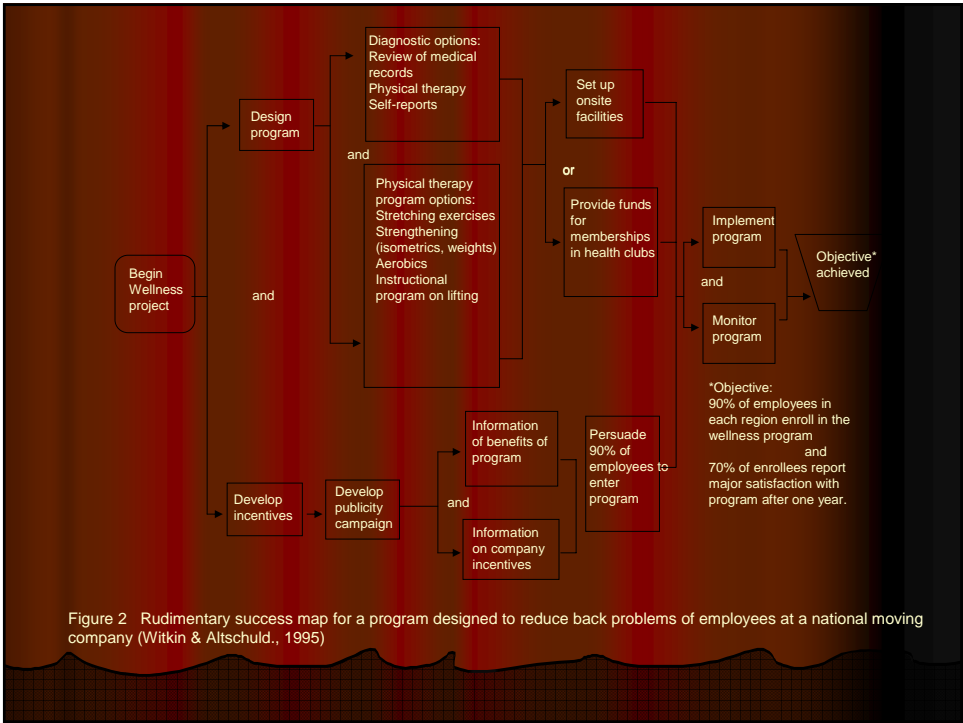
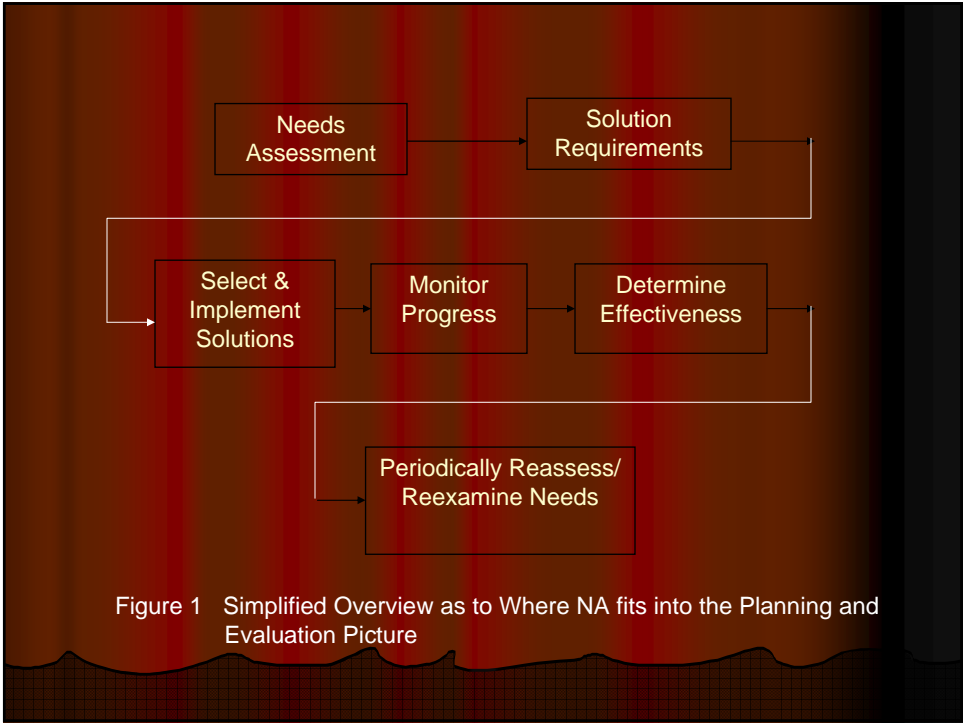
NA - Why do it and how does it relate to evaluation?

Why do it?

- Directed use of limited resources
- Identify strengths and weaknesses
- In-depth thought about problems
- Leads to better program planning & as a consequence better evaluation
- Identify causes of needs and problems
- As a result locate and select better problem solution strategies
- Builds upon consensus in organizations
- Brings values to the surface
- Program priorities based upon specified criteria
- Understand risks in not rectifying needs
- A key step in program planning but tied to evaluation
- Generally at the start of programs but note cyclical NA

Relationship to Evaluation

- Leads to clearer program goals & more focused solutions
- ID key variables affecting solutions & the underlying problem
 - Outcome variables with potential performance standards
 - Process variables
 - Due to causal analysis where the process might fail & where to conduct process formative evaluation
- Good NA should lead to overall better program accountability & evaluation



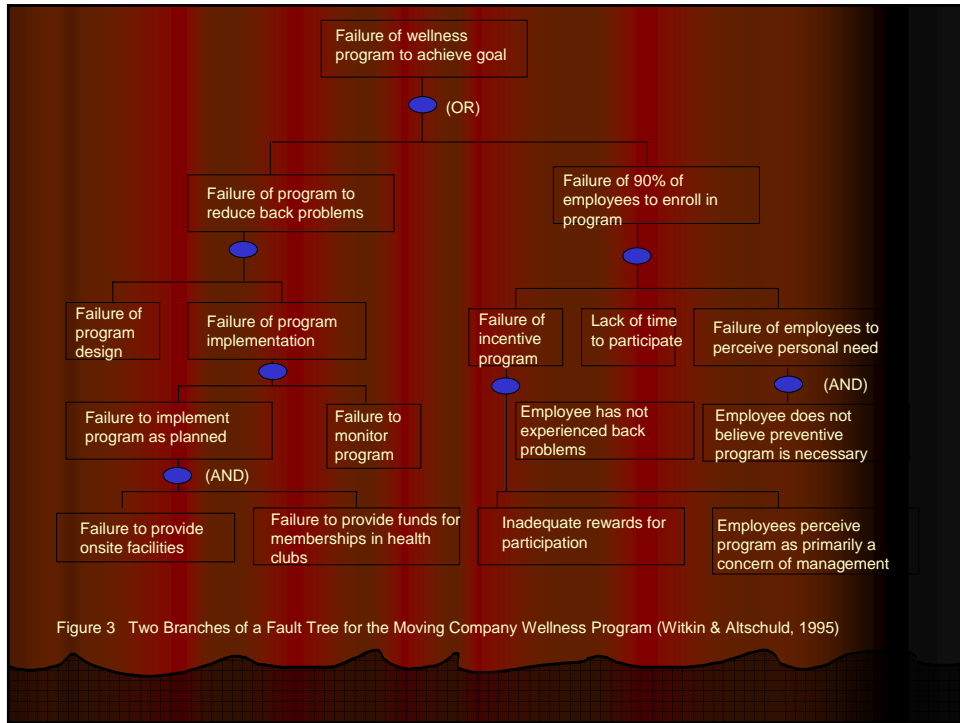
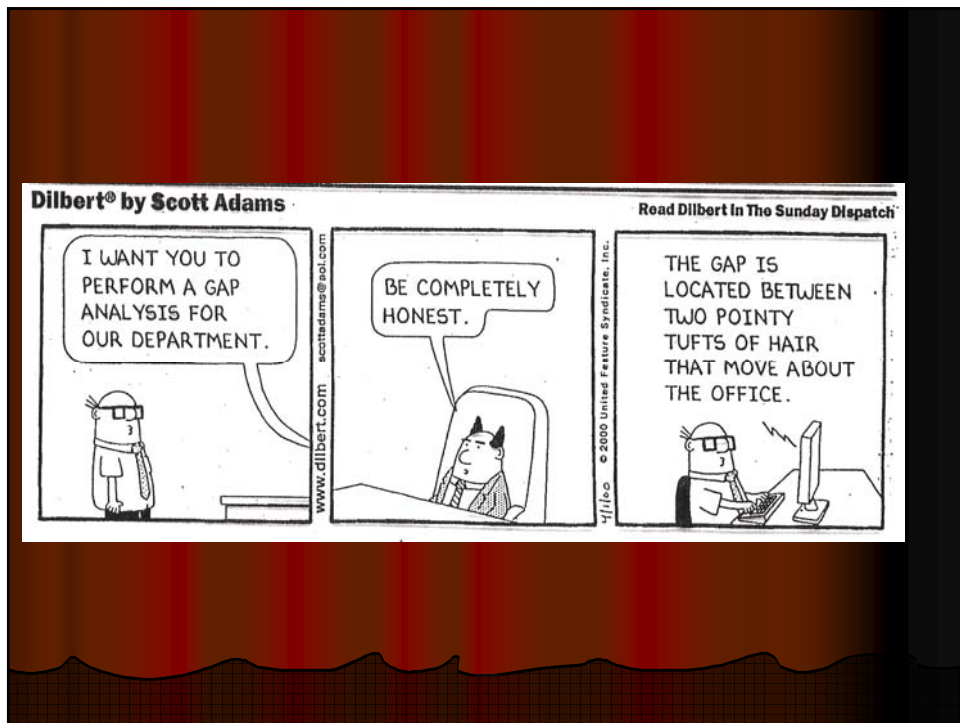


Figure 3 Two Branches of a Fault Tree for the Moving Company Wellness Program (Witkin & Altschuld, 1995)



Some Hands-on Exercises

Time for you to get into ideas

- The Case of the Pokey Elevators (Exercise 1)
- Concerns/needs/solutions (Exercise 2)
 - Meaning of the exercise/tie into later activity
- Scriven & Roth's Big Bob Exercise (Exercise 3)
- How quickly such a simple concept can become complex

Big Bob Questions

1. How could you use this concept in NA questionnaires? (See Witkin attempt)
2. Does it make any sense to push decision-making groups in terms of ideal outcomes? Corollary – what sense does it make to think in terms of minimal outcomes?
3. Do higher level outcomes automatically lead to considerations of cost and marginal cost?
4. What are the programmatic implications of higher level outcomes?
5. Do you think that posing multiple level types of outcomes would resonate well with decision-makers? Are there any examples that you might know of that would be useful?
6. Could multiple outcome states be confusing and even lead to acrimony and arguments for decision-makers?
7. What about bringing values to the surface in this way?

Witkin's Example of Multiple End States in Physical Fitness (1980's)

Excellent Program

60% participate outside of school at end of 2nd year
60% participate at the end of 4th year
50% participate after 5th year

Adequate program

40% participate outside of school at end of 2nd year
30% participate at the end of 4th year
30% participate after 5th year

Idea is still applicable today

Childhood obesity
Type 1 diabetes rising incidence
Childhood overweight
Adult overweight

Section 2

- Model
- Glimpse of Methods
- Getting the NA Started
- General Ideas
- Several Approaches
- Hands-on Exercise

Table 7 The Needs Assessment Model (Phases and Key Steps)

Phase	Overarching Phase Descriptor	Key Steps
Phase 1 Pre-Assessment	Focusing the NA and What do we know about possible needs?	<ol style="list-style-type: none"> 1. Focusing the Needs Assessment 2. Forming a NAC Committee 3. Learning as Much as we can about preliminary what should be and what is conditions from <u>available</u> data sources 4. Moving to Phases 2 and/or 3 or Stopping
Phase 2 Assessment	Do we need to know more, will we have to conduct a much more intensive data collection effort, and do we have ideas about what are the causes of needs?	<ol style="list-style-type: none"> 1. Conducting a Full NA about what should be and what is conditions 2. Identifying Discrepancies (Levels 1, 2, and 3) 3. Prioritizing Discrepancies 4. Causally Analyzing Needs 5. Preliminary Identification of Solution Criteria and Possible Solution Strategies 6. Moving to Phase 3
Phase 3 Post-Assessment	Are we ready to take action and have we learned enough about the need to feel comfortable with our proposed actions?	<ol style="list-style-type: none"> 1. Making Final Decisions to Resolve Needs and Selecting Solution Strategies 2. Developing Action Plans for Solution Strategies, Communicating Plans, and Building Bases of Support 3. Implementing and Monitoring Plans 4. Evaluating the Overall NA Endeavor (document with an eye to revisit and reuse)

From Altschuld & Kumar (2010) Sage Publishing

Table 3 An Overview of Needs Assessment Methods*

Data Type	Comments/Description	Information Generated
<p>ARCHIVAL</p> <p>Records/logs Social indicators Demographic data Census data Epidemiological studies Rates under treatment Test data Information derived from databases Other similar existing sources</p>	<p>Data does not have to be created but already exists usually in routinely maintained databases or records</p> <p>The needs assessor, in some instances, may be able to initiate new record keeping systems for collecting data</p> <p>Existing data may not exactly match the intent of the needs in question</p>	<p>Mostly quantitative data about the current (what is) status of target groups</p> <p>Data may lead to understandings about causal or contributing factors of needs</p> <p>Some databases or records might include comments and notes, necessitating qualitative analyses and interpretation</p>
<p>COMMUNICATIVE – NONINTERACTIVE</p> <p>Written questionnaires Critical incident technique Mailed Delphi surveys Web-based surveys Observations</p>	<p>These methods rely primarily on structured instruments or forms</p> <p>Surveys will employing scaled questions</p> <p>Usually a few open-ended questions will also be included in questionnaires</p> <p>Observations may follow either detailed protocols or permit more freedom in describing the phenomenon under consideration</p>	<p>While some of the data obtained can be very quantitative in nature, remember it often comes from the values, judgments, and opinions of those providing responses and perspectives</p>

<p>COMMUNICATIVE – INTERACTIVE</p> <p>Public hearings Community group forums Nominal group techniques (NGT) Focus group interviews (FGI) Cyber or virtual FGI Interviews Key informant interviews DACUM process Scenario discussions</p>	<p>Aside from interviews these procedures involve the use of small or large groups with varying degrees of interaction</p> <p>Group leadership is especially critical to the success of the procedures and the results produced</p>	<p>Highly qualitative data that will have to be summarized into themes and reoccurring concepts</p> <p>Data will be about group perceptions, opinions, judgments, values</p> <p>Information might deal with consensus on goals, courses of action, causes, priorities and the like</p>
<p>ANALYTIC</p> <p>Fishbone diagrams Cause and consequence analysis Quality function deployment (QFD) Fault tree analysis (FTA) Success mapping Task analysis Risk assessment Trend analysis Cross impact analysis Force field analysis</p>	<p>Processes done by groups to examine solution strategies, causes or risks associated with needs and/or ways to resolve them</p> <p>Results might be summarized in graphs or diagrams emanating from the analytic process</p>	<p>Highlighted problems that might lead to the failure of a solution strategy</p> <p>Guidance in choosing for a need a resolution that would have a high likelihood of succeeding</p> <p>With other information from the NA process, makes for a fuller (more comprehensive) understanding of the need</p>

*Other versions of this table could be devised. Table adapted from Witkin & Altschuld (1995) by Altschuld & Kumar (2010).

Common Issues in Getting NA Started

Focusing

- Organization doesn't really understand need or NA
- Going too narrow or too broad
- Getting organized
- Establishing NAC
- External facilitator not knowing the organization
- Linking NA results into decision-making
- If other organizations are involved, pinpointing ways to go about process



Clarifying the field of vision and gaining a clear perspective are absolutely essential!

Some Common Approaches to Begin the Process

Approaches

Interviews
Data-resources list via
Altschuld & Witkin (2000)
Watkins/Guerra Quiz
Document review
Literature review
Environment mapping
Various types of surveys
 Open-ended
 Initial fact finding
 Readiness
Others that you may know
about

Three ways emphasized here

Data-resources list
Cultural Audit
 Altschuld & Eastmond (2010) in
 the NA KIT
Lauffer's (1982) Environment
Mapping
 Older but valuable for
 collaborative NAs
All techniques are useful
Recon is underlying concept
All force more thinking about the
NA process

Cultural Audit (Altschuld & Eastmond, 2010)

- 1. Assumptions about the area in consideration**
Motivation levels of people engaged in the area
Commitment of all organizational levels to the
assessment
Expectations of performance
Respect factors across the work (concerned) unit
Everyone understands what the others do
Individuals can take initiative within a collective
framework
Other related questions and ideas
- 2. What are the common practices now done in the area?**
How do we commonly deliver our services or products?
How do we connect with our audiences/clients?
What is the nature of our interactions?
How do we handle and distribute our funds?
Where are our shortfalls in terms of funds?
Other related questions and ideas

Cultural Audit Continued

3. Communication Channels

Staff members and administrators know and understand each other
A spirit of cooperation exists
Communication is not too hierarchical in nature
Communication is reasonable without over-clogging channels (the wheat rather than the chaff comes through)
The communication environment is fairly open
Climate is positive
Other related questions and ideas

4. Anomalies, Problems, and Exceptions

Are there any unrealistic expectations?
Are there cohorts that make people feel uncomfortable beyond those in a normal workplace?
Does the organization provide enough time to adjust to new initiatives?
It is okay to challenge ideas without feeling intimidated?
Are there any factors that work against achieving collective goals?
Other related questions and ideas

Altschuld & Eastmond (2010) Sage Publishing

Similar Recon Questions (Altschuld & Kumar)

- What issues or problems are concerning you?
- What do you know about them?
- What information has led you to this knowledge?
- What group or NA level is affected?
- What is org. now doing about problem?
- Would it consider offering new services here?
- How committed to change is the org?
- If NA uncovered problems counter to current thinking what might happen?
- What might be causing the problem?
- What historical events have led to the problem?
- Are there sharply different views about it?
- Is it really a high priority?
- What are barriers to problem resolution?
- Has the org. looked at problem before?
- Are there any prior NA's or evaluations of it?
- Who worked on this before?
- Are they available and would they be willing to provide information?
- What were the prior data collection strategies?
- Why was I contacted to be the facilitator?
 - In other words what could I be getting into?
- Other questions
 - Why do you want to do a NA now?
 - Is the organization motivated to change?
 - How open is the situation to moving forward?
 - Is the context supportive?
 - Sacred cows?

Environmental Mapping



Getting a feel for the lay of the land.

Older approach by Lauffer for working in developing countries

To map out the environment around an organization, first briefly describe your organization and need

Then identify

Consumers/users of services

Collaborators/competitors

Suppliers to organization

Auspice providers

Next specify the strength of linkage to your organization and how amenable to change these linkages are

Review the map and suggest reasons why other organizations would want to participate in a collaborative NA with you and why they might not want to do so

Lauffer is a more external/internal look at the issue whereas cultural auditing is more internally focused

Technique still has high utility for work in NA particularly as related to the collaborative situation

Cooperative Needs Assessment

1. Purpose - to help you think through the nature of the environment in which the agency or organization exists and which will be the context for the cooperative needs assessment strategy.
2. First, produce a hand-printed paragraph describing the agency or organization. Include its size, location, etc. in your description.
3. Place agency, organization or institution name in center of map supplied for that purpose. Then initially complete steps 4-6 for map as applicable to your situation.
4. Identify actual or potential consumers and place names in boxes
 - Recipients of agency services or products
 - Be specific
 - Could include other agencies or organizations
 - Could include those who should be consumers but currently are not

Cooperative Needs Assessment cont.

5. Identify collaborators and competitors
 - Other service providers
 - Competitors for services
 - Current and potential collaborators/competitors
6. Suppliers of resources
 - Money
 - Facilities
 - Political Influence
 - Etc.
7. Auspice Providers
 - Board of Directors
 - Legislative Guidelines

Cooperative Needs Assessment cont.

8. Go back to each box you've filled in and score it in terms of 2 dimensions. Place the score for the dimensions beside each box.

Importance to your agency's survival and achievement of goals.

<u>Score</u>	<u>Value</u>
I+2	Very Important
I+1	Somewhat Important
I+0	Neutral
I-1	Somewhat Unimportant
I-2	Very Unimportant

Amenability to influence

A+2	Very Amenable
A+1	Somewhat Amenable
A+0	Neutral
A-1	Somewhat Un-amenable
A-2	Very Un-amenable

Cooperative Needs Assessment cont.

9. Write above the dotted lines the linking mechanism (s) for the factor in the environment and the agency. Identify the mechanisms as existing (E), probable at a future date (P) and desirable or ought to be there (D).
10. Congratulations! You've mapped out the task environment for your agency or institution. Review it and then complete steps 11 & 12.
11. Define reasons for other agencies and groups in the task environment to participate in a cooperative needs assessment process. Be specific and define and define as many reasons as possible.

Cooperative Needs Assessment cont.

Reasons

- | | |
|----|-----|
| 1. | 7. |
| 2. | 8. |
| 3. | 9. |
| 4. | 10. |
| 5. | 11. |
| 6. | 12. |

Cooperative Needs Assessment cont.

12. Define factors or forces that might work against/for successful cooperation on the needs assessment

Forces Against

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

Forces For

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

Cooperative Needs Assessment cont.

13. Outline procedures or steps you would initiate for a successful cooperative needs assessment. How would you capitalize on the forces for and how would you work to combat forces against?

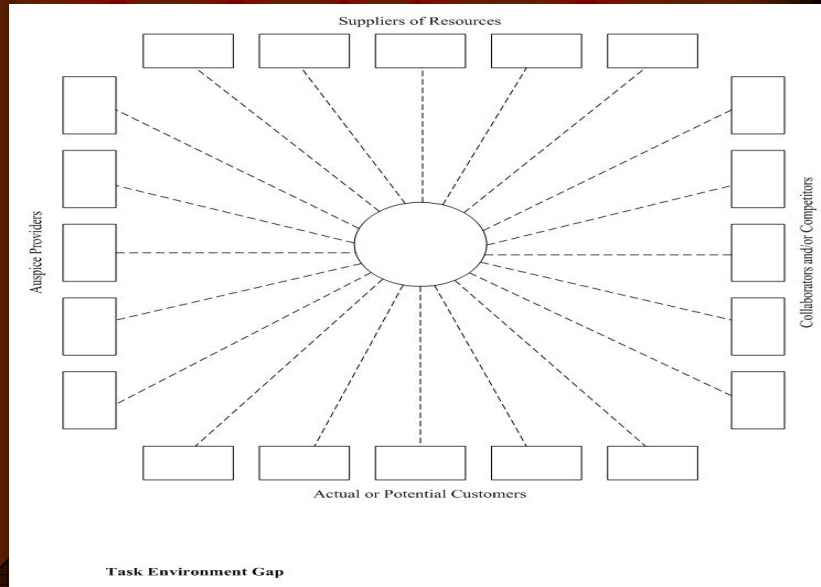
Against Forces Against

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

For Forces For

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

Task Environment Map



PLANNING AND MANAGING THE NA Data Resources List Format for Pre-assessment

Goal: Expand AEA membership in accord with criteria developed by a membership committee			
Concern: To what extent does the membership represent the diversity and nature of practicing evaluators? What are potential other sources of AEA members?			
What is Known		Data to Gather	
Facts	Sources	Facts	Sources
# of members Highest degree Gender Countries Area of specialization _____ _____ _____	Membership lists TIG list Registration Evaltalk list	AEA, Prime Organization Evaluation as a prime focus Nature of practice Other organizations	Surveys Interviews at Conference FGIs _____ _____ _____
		Opinions	Sources
		<i>Why join?</i>	See above
		<i>What value?</i>	
		<i>When?</i>	

Additional columns may be added (Altschuld & Witkin, 2000)

Section 3 – Dealing with Survey Data

- Features of survey design/layout
 - Tie to basic definition of need
 - Overview of sampling/scaling and so forth
- What the data tells us
 - Descriptively
 - Analytically

Analysis of Survey Data in Needs Assessment*

- How to handle descriptive data
- What the inferential data tells you?
- How to deal with double & triple scaling
- Psychometric aspects of survey data
- Survey data analysis hands-on exercise!

*Altschuld & White (2010) Sage

Quantitative Data Analysis in NA

- Why is it prominent in NA process?
 - Central to the needs to calculate the discrepancy/gap between the “current” and “desired” states
- Start w/pre-analysis data checks
 - Hand-entered data error prone
 - Front-end effort saves time and anguish later
 - Eye-ball electronic data

Pre-Analysis Data Check List

Does it pass the “eye-ball” test?

- Inspect single variable description for accurate input
- Look for missing data & determine why
- Identify & deal with outliers
- Does the data appear to behave in unexpected ways?
 - Unusual spreads within groups
- Do some variables seem to correlate more than anticipated
 - When done, proceed w/sense data is trustworthy

Descriptive Data Questions

- Who are the respondents?
- Who participated in the survey, interviews, etc .?
- What are their characteristics
 - Demographic, socio-economic, etc.
- Is it large enough for analysis?
 - Size, representation, proportionality, etc.
- Are there any unexpected subgroups?
 - If yes, do they have different perspectives about the issues?
- Did any key stakeholders fail to respond?
 - Non-responses equally important

Summarizing Descriptive Data

- Use descriptive stat best portrays characteristics to intended audience
- Scaled responses (interval-ratio)
 - Table of means, variances, & standard deviations
 - Frequencies & proportions
- Non-scaled (nominal - some ordinal)
 - Median & mode scores w/range of responses
 - Tabular or graphic form
- General rule of thumb
 - Is it clear/coherent and can it be understood by the audience?
- Do characteristics stack up to comparable group?
 - Goodness of fit allows for better generalization (more later)

Descriptive Data cont.

- Frequencies & spreads helpful interpret needs data...
 - Bimodal distribution on “what should be” scale
 - Means have 2 center points
 - Respondents split on the item
 - Indicates 2 unique positions OR 2 distinct groups
 - To find out...
 - Cross tabulate data for the item/topic by respondent group, levels, etc.

Descriptive Data cont.

- Double-scaled NA example...
- “Current” v. “desired” states capability
 - “Novice” & “expert” anchors
 - Freq. distribution of current = most on novice end
 - Current estimated low, desired is high
 - Indicates training needs

Psychometric Data Analysis

- Avoid “fruit from the poison tree” syndrome
 - Results only as good as the instrument
- Statistical or judgmental techniques
 - Reliability analysis
 - Cronbach’s, split-half, etc.
 - Inter-rater/inter-observer
 - Validity test
 - CFA, EFA, etc.
 - Face validity, criterion-related, etc

Inferential Data

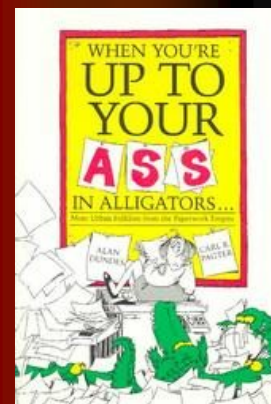
- Cannot assume generalizing descriptive data w/o inferential analyses
 - Make inferences about population
- Test hypotheses
 - Differences within/between groups
 - Are discrepancy conditions “real” or random error
- Goodness of fit
 - Tell if descriptive characteristics match population

Inferential Data cont.

- Examine relationships
 - e.g. between satisfaction & frequency use
 - Examine scatterplot first
 - Type of relationship & strength
 - How much a variable impacts another
- Make predictions
 - Estimates about outcomes
 - e.g. test scores, event occurrences, etc

Easy to Get Bogged Down By the Statistics

- Emphasis on practical significance
 - Is it cost effectiveness?
 - Does implementation make crucial difference?
 - Acceptable to stakeholders?
 - Public & politically palatable?
 - Ethical or legal concerns?



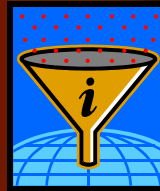
Data Analysis Exercise

- See handout packet

Surveys – Data Analysis/Portrayal

First steps first

- Phase 2 surveys
 - Sampling for Phase 2
 - Content areas
 - Wording ideas (2 sets)
- Typical formats
 - Scaling options
 - Delivery style
 - Putting it together



When people see the survey, they really don't know the work that went into the funnel to produce a meaningful set of questions & good format.

DOONESBURY by Garry Trudeau



You aren't finished – follow-up & analysis



Do the NA well and you will create a beautiful structure.

Follow-up

Initial questions for analysis

Ideas for use of the rule of three

Preference items

Double scaled items – analysis and data portrayal

- straightforward descriptive tables

- what they tell you

- what you could miss

- quadrant method

- goal attainment/achievement tables

- means difference analysis

- PRE

Problems with some of the methods

Triple-scaled items

Open-data

Fancier analysis

Hands-on exposure

Treatment Outcomes in a Managed Care System

Section I. There are six categories of items or questions that could be measured as outcomes of mental health treatment. Rank order the 6 categories below using the following scale:

- 1 = most important of these categories of treatment outcomes
- 2 = second most important
- 3 = third most important
- 4 = fourth most important
- 5 = fifth or next to the last
- 6 = least important category of treatment outcomes.

Write only one number from 1 to 6 on the line in front of each item.

- _____ consumer satisfaction with treatment
- _____ consumer involvement in treatment
- _____ psychological symptoms (such as depression or problems in thinking)
- _____ relationships with other people
- _____ independent functioning and well-being
- _____ family involvement

Section II. Below are items for each of the six categories that you just ranked. Circle one number on the right to indicate the extent to which it is important to measure this outcome. Use the following scale for the ratings.

- IMPORTANCE OF MEASUREMENT
 DK = don't know about this outcome
 1 = very low importance
 2 = low importance
 3 = average importance
 4 = high importance
 5 = very high importance

A. CONSUMER SATISFACTION WITH SERVICES

	IMPORTANCE
Ease in locating treatment	DK 1 2 3 4 5
Range of treatment options	DK 1 2 3 4 5
Culturally appropriate treatment options	DK 1 2 3 4 5
Waiting time for first visit	DK 1 2 3 4 5
Waiting time for appointments	DK 1 2 3 4 5
Relationship with intake worker	DK 1 2 3 4 5
Relationship with therapist	DK 1 2 3 4 5
Relationship with case manager	DK 1 2 3 4 5
Relationship with psychiatrist	DK 1 2 3 4 5
Cleanliness of buildings	DK 1 2 3 4 5
Safety in offices	DK 1 2 3 4 5

Hamann, 1997, Dissertation.

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- _____ relationships with other people
- _____ independent functioning and well-being
- _____ family involvement

Section II. Below are items for each of the six categories that you just ranked. Circle one number on the left to indicate the extent to which it is currently measured and circle one number on the right to indicate the extent to which it is important to measure this outcome. Use the following scales for the ratings.

- | | |
|------------------------------------|------------------------------------|
| CURRENT MEASUREMENT | IMPORTANCE OF MEASUREMENT |
| DK = don't know about this outcome | DK = don't know about this outcome |
| 1 = almost never | 1 = very low importance |
| 2 = once in a while | 2 = low importance |
| 3 = about half the time | 3 = average importance |
| 4 = more often than not | 4 = high importance |
| 5 = almost always | 5 = very high importance |

A. CONSUMER SATISFACTION WITH SERVICES

CURRENT MEASUREMENT		IMPORTANCE
DK 1 2 3 4 5	Ease in locating treatment	DK 1 2 3 4 5
DK 1 2 3 4 5	Range of treatment options	DK 1 2 3 4 5
DK 1 2 3 4 5	Culturally appropriate treatment options	DK 1 2 3 4 5
DK 1 2 3 4 5	Waiting time for first visit	DK 1 2 3 4 5
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DK 1 2 3 4 5	Relationship with psychiatrist	DK 1 2 3 4 5
DK 1 2 3 4 5	Cleanliness of buildings	DK 1 2 3 4 5
DK 1 2 3 4 5	Safety in offices	DK 1 2 3 4 5

**DEPARTMENTAL CHAIRPERSON
ANNUAL EVALUATION**

DIRECTIONS Rate each of the items on the instrument in terms of its importance and success by circling the appropriate scale number. If you have no opinion or have not observed an activity circle the Don't Know (DK) response.

I. GENERAL ADMINISTRATION

<u>IMPORTANCE</u>		<u>SUCCESS</u>
DK 1 2 3 4 5 Don't Know Very Unimportant Unimportant Average Importance Important Very Important	The Departmental Chair: 1. is an active leader in the development, dissemination and implementation of departmental policies & goals. 2. seeks the involvement of faculty in the development and implementation of departmental policies & goals. 3. demonstrates fairness and consistency in administering departmental policies, taking into account individual needs. 4. seeks knowledge and information with regard to important issues and decisions. 5. actively consults with faculty of differing viewpoints with regard to important issues and decisions. 6. uses information as described in 4 and 5 above in making decisions. 7. seeks information about and maintains contact with program areas in the department.	DK 1 2 3 4 5 Don't Know Very Unsuccessful Unsuccessful Average Success Successful Very Successful
DK 1 2 3 4 5		DK 1 2 3 4 5
DK 1 2 3 4 5		DK 1 2 3 4 5
DK 1 2 3 4 5		DK 1 2 3 4 5
DK 1 2 3 4 5		DK 1 2 3 4 5
DK 1 2 3 4 5		DK 1 2 3 4 5
DK 1 2 3 4 5		DK 1 2 3 4 5
DK 1 2 3 4 5		DK 1 2 3 4 5

Example of First Student Survey

Section III

Universities also provide other services as shown below. Rate them in terms of **importance**, **satisfaction**, and **frequency of use**. If you are not familiar with a service or your campus doesn't have it, denote **not applicable** under the importance column and move to the next item.

	Extent to which the service is important to your academic success.					Extent to which you are satisfied with the service.					How frequently do you use this service?				
	Strongly Disagree	Disagree	Agree	Strongly Agree	NA	Not Satisfied	Satisfied	Very Satisfied	Very Satisfied	Not Satisfied	Never	Frequently	Very Frequently		
Financial aid, grants, & loans	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Scholarships	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Work study programs	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Internships	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Assistance with on-campus employment	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Assistance in locating off-campus employment	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Differences in Wording – Students & Faculty/Administrators about Services (Within method variation)

	Importance	Satisfaction	Frequency of use
Faculty/ Administrator	Extent to which the service is <u>important</u> to the academic success of <i>students</i> .	Your <u>satisfaction</u> with the service for <i>students</i> .	<u>Frequency</u> of <i>students'</i> use of this service.
Student	Extent to which the service is important to your academic success.	Extent to which you are satisfied with the service.	How frequently do you use this service?

Results of Survey 1

Return rates

Initial survey: Students=15% (n=168) F/A=44% (n=39)
 Follow-up survey: Students=45% (n=27) F/A=39% (n=10)

Good reliability on all scales (alphas .70 to .98)

Perspectives of services

Descending trend observed across the 3 aspects of the services
 No single service obtained high values in the needs index

Comparison of groups' perspectives

Group effects were detected for some services but were not strong.

Reasons behind the differences (follow-up survey)

Exploration revealed differences in concerns and expectations for some services

Going beyond the numbers

Themes: Faculty Mentoring

Student Follow-up Survey

<i>Reasons for low importance rating produced by their group</i>	Freq.
Not aware of the advantages of the service	11
Feel no need for faculty-oriented help	9
Unpleasant mentoring experience	5
No idea	3
Hard for students to fit mentor's schedule	2
Climate in STEM encourages independent study	1
<i>Reasons for the higher rating by the faculty/administrator group</i>	
Aware of the benefits for students	9
Like to help students	5
Feel responsible for mentoring	2
No idea	2
Pride	1

F/A Follow-up Survey

<i>Reasons for higher importance rating produced by their group</i>	Freq.
Great progress of students who have been mentored	4
View mentoring as a duty	1
High level of student need	1
No idea	1
<i>Reasons for the lower rating by the student group</i>	
Too young or immature to recognize the importance of mentoring	3
Unpleasant experiences	3
Satisfaction with mentoring	2
No idea	1

Follow-up Survey: Conclusions & Recommendations

Reasons for the differences

- Stakeholders see the world through different lenses
- Often judge services based on their own backgrounds
- Strengths and deficiencies of the program implementation were disclosed

Form effects not found but

- Amount of incomplete data was greater in triple scaled form

Recommendations:

- Qualitative data helpful in understanding scale responses
- Involve more than one stakeholder group in the NA process
- Probing for reasons behind differences has value for program improvement
- More study on how to analyze NA data
- n problems for follow-up studies
- Greater costs involved
- What items for follow-up study?

Section 4 - Prioritization

Issues affecting prioritization

Criteria and strategies

Hands-on use of one approach

Initial Questions about Prioritization

Reflect on NAs you have done

Think of needs in health, public health, education, social welfare, children in foster homes, business, infrastructure, etc.

Think of training people to deliver services, what they require to do so, what consumers/users need, what systems need for improvement or maintenance

All of these imply multiple needs and priorities, so how did you arrive at which one(s) to resolve

- procedures
- criteria
- who made the decision
- issues
- other observations

Notes from other workshops



It seems that our NA procedures are in need of triage!

Considerations for Prioritizing & a Few Procedures

Considerations

- Criteria for judging
- Who judges/decides
- Thinking about the counterfactual state
- Should causal analysis be done before prioritization
- If solutions are part of the process (good or bad)
- Choice of process for deciding
- Should multiple approaches be used to prioritize

Process Options

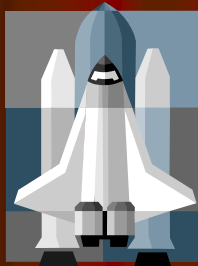
- Ranking procedures
 - Multiple strategies*
- Sork's procedure*
- Screening*
- Many others are assuredly there

Prioritizing from double and triple scaled scores

- Characteristics of data
- Subtle nature of data
- But not good enough
- Other possibilities partly
- MAUT
- SMART
- QFD
- Force field analysis
- Causal analysis
- Using the literature
- Benchmarking
- Risk assessment
- SWOT analysis
- Linear programming (perhaps)
- Remember data from multiple sources and methods

*Discussed later

Considerations



It isn't rocket science but it has its own complex dimensions.

Criteria

- Importance, size, counterfactual state, and more
- Sork's importance/feasibility criteria*
- Think about internal/external risks
- Costs might also be a factor but thinking at the margin

Who decides

- NAC focus
- Enlarged NAC for charged issues
- Watch for vested interests
- May require a specialized method choice

- Only decision makers
- Issues in every choice

Do causal analysis & solutions fit in here
MAUT and combining solutions

Start into Procedures

Group Discussions

May work well on small needs
If sense of group chemistry is there, use it

Especially if NAC has been together awhile

Possible insulation of group could be a problem

Sorting/ranking procedures

Q, card sorts

MES

Novel change of pace

Use defined sorting rules

Could work well but limited to only 1 or 2 criteria (importance, feasibility)

Ranking

10-15 needs may work well, not for long lists

Probably 1-2 criteria but they get meshed together

Ranking Twist 1

Long lists of needs, use a sorting procedure with subsequent ranking

Ranking Twist 2

Double pass, rank on 1 criteria then go through list for the other

Split half possibilities

Separate rankings on criteria

More thought being exercised

Perhaps somewhat tedious

Ranking Twist 3

Re-ranking with a subtle decision rule

Based on a subtle observation

Ranking Continued

Reversal of logic of voting systems (2 ways – delete top choice or Olympic strategy)

Requires way of tracking votes (colored markers, etc.)

Interesting new priorities might emerge

Forces more thoughts about all needs

May impinge on sensibilities

Data Analysis/Reporting

Average ranks but not enough

Patterns of ranking

Subgroup possibilities

If double pass – decision rule on how many must rank an item before looking at it



Crazy world isn't it!

Screening & Sork's Technique

Screening, disaggregation concept

- Identify criteria for judging
- Place the criteria in rank order
- Take each individual need to see if is high for the first criteria or screen
- Only those needs that pass through the first screen go on to second ranked criterion
- Repeat process – greatly winnows down the number of needs considered

Advantages/Disadvantages

- Used in Columbus to identify schools for potential closing
- Neat, clean understandable process
- Fractionates criteria that might have to be viewed together
- Make sure process is transparent for concerned groups

Sork's Technique

Basic steps

- select criteria
- rate needs on each criterion
- assign weights to them
- add ratings for each need
- arrange totals in priority order

Importance Criteria (5)

- # affected by need
- is immediate attention to need required
- if attended to, will the activity contribute to organizational goals
- size of the discrepancy
- instrumental effects

Feasibility Criteria (3)

- commitment of organization to change
- availability of resources
- degree to which an adult educ. strategy will work

More About Sork Issues

Advantages

- Good criteria
- Clear procedure
- Looking at criteria in a holistic way
- Can be tedious w/many needs

Risk factors as criteria

- is need worth the effort (worthwhile effort risk)
- short term economic risk
- long term economic risk
- greater time risk
- new development risk reduction
- short-term political risk

- long term political risk
- competitive risk
- internal disruption risk
- internal morale risk

Scenario-based exercise (#6)

- read assigned scenario
- individually review Sork's criteria should there be others?
- look at weights of criteria should there be other weights
- implement the procedure

Go to Exercise 6

Other Issues

Transparency in prioritizing

- concerns governing the process
- why some were chosen over others
- need to publicize how it was done

Dealing with multiple sources/types of data

Tact in the process

- whose ox will be gored

Priorities have to be transformed into action plans

Full blown attack on only a few or dilute across many

Political considerations

Prioritizing in collaborative needs situations

Only prioritize shortterm, solvable needs

Incentives for thinking about longer term needs (executive pay)

Commitment to longer term needs

Topic not described enough & not enough research in literature

Subtle and sometimes not characterized by overt/clear principles