
The Evidence for Action Learning

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Intent of Presentation



Stated purpose – to present the evidence for a popular leadership development methodology – Action Learning

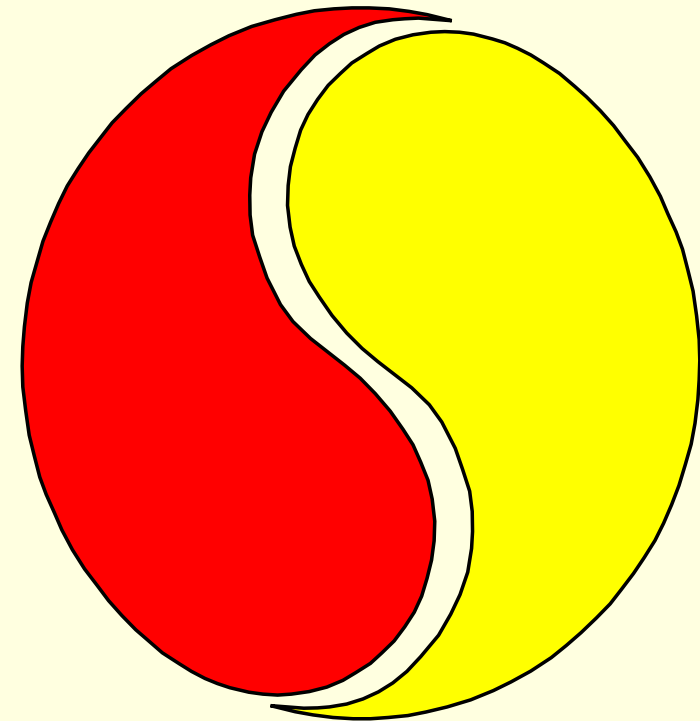
Über-purpose – to explore

- How to establish evidence-based practice when rigorous research studies are limited or missing and methodologically difficult to conduct
- How “less-than-perfect” data can be used to conduct a “conceptual meta-analysis” to build a convincing case for the effectiveness of an applied methodology

What is Action Learning?



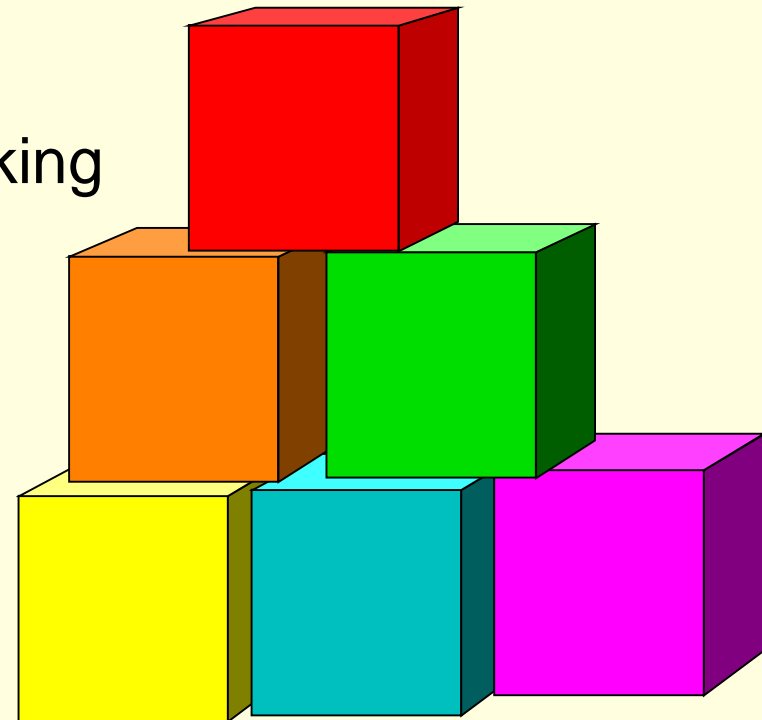
- A **process** that involves a small group working on real problems, taking action, and learning while doing so
- A powerful management **tool** that creates dynamic opportunities for individuals, teams, leaders and organizations to successfully adapt, learn and innovate



Components of an Action Learning Program



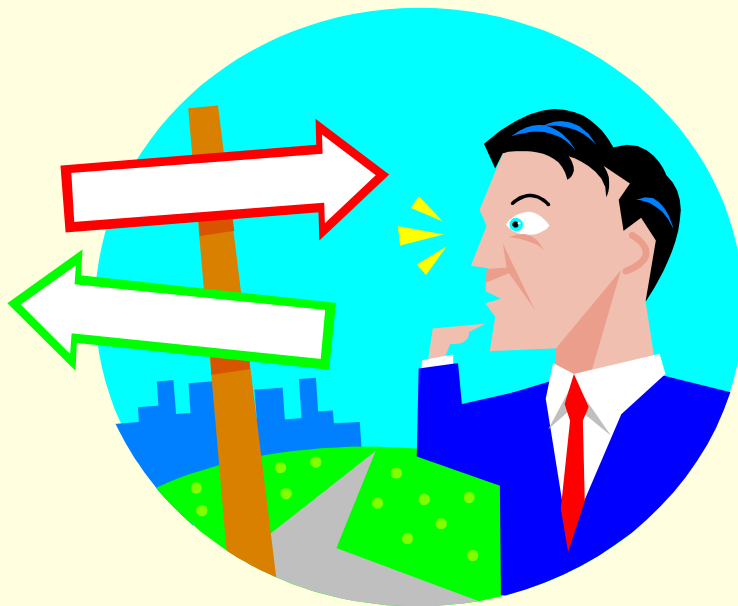
- ❶ Project, challenge, task, or problem
- ❷ Group of 4-8 people with diverse perspectives
- ❸ Reflective questioning and listening
- ❹ Developing Strategies and taking action
- ❺ Commitment to learning
- ❻ Action Learning coach



Ground Rule & Norm



1. Statements only in response to questions; anyone can ask questions
2. Action learning coach has authority to intervene whenever he/she identifies learning opportunities



Historical Roots



Reg Revans – UK

- “Father” of Action Learning
- Unsinkable Titanic
- Cambridge physicist
- National Coal Board/ Royal Infirmary
 - Trist & Emery/Socio-technical Systems/Tavistock
- MBA Professor
- Learning = Programmed Knowledge + Questioning + Critical Reflection (Marquardt)
- “No learning without action; no action without learning”

Kurt Lewin – Germany/USA

- “Father” of Action Research
- Inspired founding of NTL & experiential learning movement
- “No research without action and no action without research”
- Argyris & Schön/organizational learning
- Inspired OD and application of General Systems Theory
- Senge

↓
Contemporary Action Learning

Evidence-Based Practice



- Level I - Evidence obtained from at least one properly designed, randomized, and controlled trial
- Level II-1 - Evidence obtained from well-designed and controlled trials without randomization
- Level II-2 - Evidence obtained from well-designed cohort or case-controlled analytic studies, preferably from more than one center or research group
- Level II-3 - Evidence obtained from multiple time series with or without intervention. Dramatic results in uncontrolled trials might also be regarded as this type of evidence
- Level III - Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

(Harris et al., 2001)

Kirkpatrick's Model for Training Evaluation



- Level 1 – Participant reactions to the training
- Level 2 – Participant learning
- Level 3 – Participant behavior change
- Level 4 – Program Results

(Kirkpatrick & Kirkpatrick, 2006)

Conclusion vs. Decision-Oriented Inquiry



Cronbach & Suppes (1969)

- The purpose of most academic and scholarly research is to draw conclusions with respect to experimental hypotheses – i.e. whether to confirm or disconfirm null hypotheses
- The purpose of most business-funded research/assessment is to make decisions about the value of an investment
- Using studies designed for decision-making to test hypotheses creates conflicting priorities
 - Business-funded studies are usually not concerned with the generalizability of results, or
 - Elegance of design
 - Most concerned with ROI, not statistical significance

Confirmatory vs. Exploratory Designs



■ Confirmatory Research Designs

- Test experimental hypotheses
- Use statistical tests of significance/inference (e.g. t-tests, F tests, Chi-square, non-parametric tests of significance)
- Gold standard – randomized assignment, manipulation of IV, control groups, double-blind measurement
- Can be used to establish causality

■ Exploratory Research Designs

- Suggest hypotheses to be tested in the future
- Use descriptive statistics (e.g. Pearson r, multiple regression, factor analysis, discriminant function)
- Naturalistic designs, e.g. case studies
- Cannot be used to establish causality

Quantitative vs. Qualitative Designs



■ Quantitative Research Designs

- Use psychometric measures (hopefully, reliable and valid) or behavior rating systems (sometimes using computer programs and hopefully using a double-blind design)
- Data is analyzed using descriptive or inferential statistical procedures

■ Qualitative Research Designs

- Review behavior without converting to quantitative scales
- Often use verbal transcripts and interviews of participants in programs. Interviews can be tightly structured or free-wheeling
- Data is frequently organized into themes

Classification of Research Designs



	Confirmatory	Exploratory
Quantitative	<ul style="list-style-type: none"> • Collect quantitative data to test experimental hypotheses • Provide experimental controls • Analyze data using descriptive or inferential statistics 	<ul style="list-style-type: none"> • No a priori hypotheses • Collect data – psychometric instruments, behavioral analysis • identify relationships, patterns, and associations for future confirmatory study
Qualitative	<ul style="list-style-type: none"> • Very difficult, but not impossible to design • Key difficulties - agreement on the definitions of IV & DV's; reliability & validity of measures; limited # of statistical procedures 	<ul style="list-style-type: none"> • No a priori hypotheses • Case studies • Naturalistic designs • Organizing data into themes • Purpose to describe the experience or generate hypotheses to test

Typical Evidence Provided by Research Design Type



	Confirmatory	Exploratory
Quantitative	Levels I, II-1, II-2, II-3	Level II-3
Qualitative	Levels II-2, II-3	Level III

Classification of AL Research Designs



	Confirmatory	Exploratory
Quantitative	5	6
Qualitative	1	7

Statistical and Conceptual Meta-analyses



Both approaches compensate for statistical and methodological inadequacies

Statistical meta-analysis

- Small sample size (low power)
- Unreliability of the criteria
- Misc. design flaws
- Confirmatory designs/validity and statistical significance of experimental results
- Pooling of data

Conceptual meta-analysis

- Small sample size
- Lack of statistical analyses
- Poorer quality of evidence – lack of objectivity
- Confirmatory/exploratory designs – not only whether differences are significant but also why they are significant (factors determining impact)
- Pooling & triangulation of data

Taking Advantage of Lots of Bad Situations



- Both approaches capitalize on the fact that design flaws and inadequacies are not systematic distributed across studies, i.e. occur randomly
- Therefore, design flaws and errors tend to cancel each other out
- Clear trends emerge with enough data
- Consequently, lots of Level II-3 and III studies can produce higher quality evidence than any single study could produce

Research Questions



1. What impact does Action Learning have upon individual, team, and organizational learning and performance?
2. How does Action Learning work?
3. What are the significant success factors for conducting successful Action Learning programs?

1 - What impact does Action Learning have upon individual, team, and organizational learning and performance?



Summary of the evidence – Action Learning

- Develops broad executive & managerial leadership skills
- Is particularly effective in developing collaborative/shared leadership skills
- Improves the ability of managers to develop integrative, win/win solutions in conflict situations
- Improves manager coaching skills

Study snapshots



Raudenbush, Marquardt and Hill (2003) - Leadership

- Quantitative/confirmatory & qualitative/exploratory – Level II -2/3
- Federal agency
- Improvement in 9 or 10 executive leadership competencies measured via 360-degree feedback
- Self-rated improvements in communicating, team building, and conflict management

Kim, S. (2003) - Leadership

- Quantitative/confirmatory – dissertation - Level II-2
- Asian/Australian managers in multi-national corporations
- Self-assessment of leadership skills (Sashkin, Rosenbach & Sashkin, 1998) pre-post
- No improvement in transformational leadership skills
- Evidence of improvement in collaborative leadership skills

Study Snapshots



Lee (2005) - Leadership

- Quantitative/Exploratory – dissertation - Level II -3
- Managers in Korean multi-national corporation
- Self-assessed improvement in all 10 leadership scales (Sashkin & Sashkin, 2003)
- Improvement sustained 3 weeks after program ended
- Largest improvement reported for *Communication*, *Follower-centered*, *Reward*, *Confident* and *Caring* representing all 4 primary leadership styles (directive, transactional, transformational, and empowering, Pierce et al, 2003)

Study Snapshots



Acker-Hocevar, Pisapia, & Coukos-Semmel (2002) - Leadership

- Qualitative/exploratory – Level II –3/ III
- US Doctoral education students
- Reviewed learning journals, team process survey reports, evaluations by staff and clients, and focus group interviews
- Action Learning
 - reinforces the development of basic leadership skills
 - builds basic leadership skills in a safe environment
 - reinforces managerial, transformational, political and professional aspects of leadership
 - allows participants to understand themselves as developing leaders

Study Snapshots



Choi (2005) – Coaching Skills

- Quantitative/qualitative/exploratory – dissertation - Level II –2/3
- Surveys and interviews of upper/middle managers in a Korean financial organization
- Improvement in all 8 coaching dimensions
 - relationship building
 - setting and communicating clear expectations
 - observational skills
 - analytical skills
 - listening skills
 - questioning skills
 - feedback skills
 - creating a supportive environment
- All 6 components of AL process (Marquardt, 2004) contributed to development of these skills

#2 - How does Action Learning work?



Summary of governing variables/active ingredients

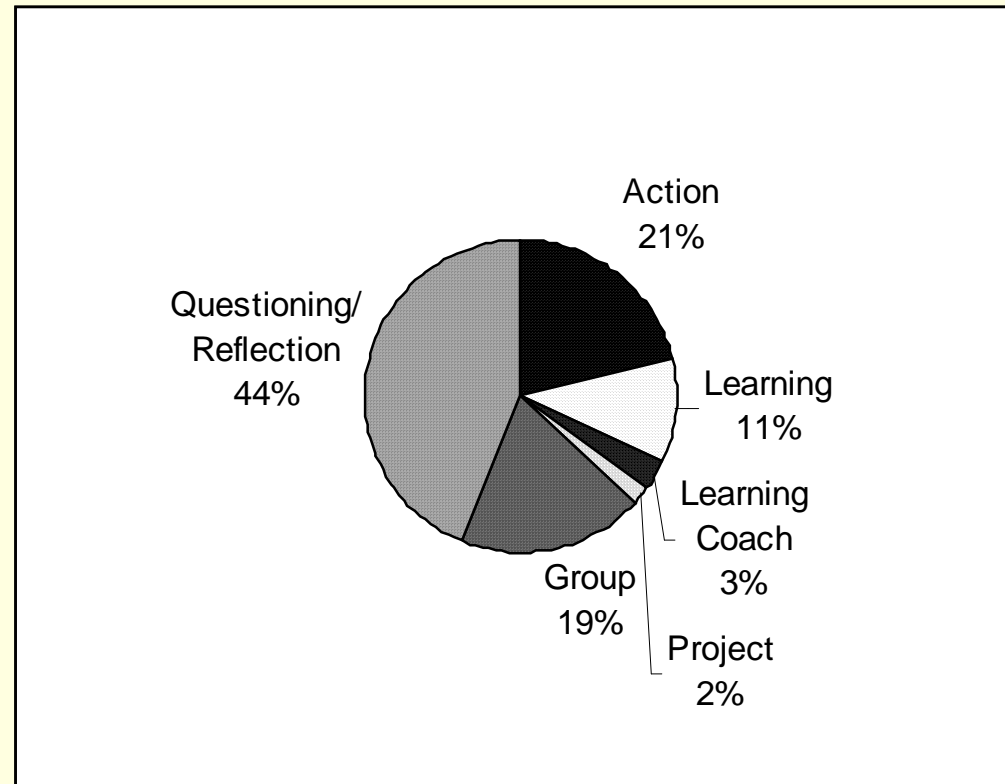
- Questioning – most commonly identified factor
- Taking action
- Learning from each other
- Listening
- Diversity of team membership
- Feelings of confidence and well-being
- Safe environment
- Coach

Study Snapshots



Lee (2005)

- Interviewed subset of participants (9) – what aspects or activities most likely facilitated changes in leadership skills.



Study Snapshot



Raudenbush, Marquardt and Hill (2003)

- Interviewed participants 12 months after program – what processes contributed most to their learning
 - Asking questions
 - Taking action
 - Listening
 - Observing
 - Learning from each other

Study Snapshot



Butterfield (1999)

- Qualitative/Exploratory – dissertation – Level II-3/III
- First-line US supervisors in multi-national financial services organization
- Interview data 4 months & year after program – critical incidents methodology
 - 4 months later – thought-provoking questioning mentioned by 94% of participants as primary learning facilitator
 - Other facilitators: diversity of the participants (71%); personal sense of well-being (70%); and having a safe environment to work (53%)
 - 1 year later – ½ believed that their ability to ask good questions to solve problems had improved even though they couldn't recall the actual procedures used in their program

Study Snapshot



O'Neal (1999) – Role of the Coach

- Qualitative/exploratory – dissertation – Level II-3/III
- Interviewed 23 experienced coaches from US and Europe
- Used software to identify themes
- What skills and knowledge do learning advisors think they use?
 - Process consultation skills; not problem or issue expertise
 - Consultation skills
 - Systems theory
- What characteristics do coaches need?
 - insightfulness
 - Sensitivity
 - empathy
 - curiosity
 - willingness to examine oneself critically
 - ability to question oneself and admit uncertainty and errors

Study Snapshot



O'Neal (1999)

- How do Action Learning coaches decide when they will intervene?
 - Intuition/hunches, recognition of familiar patterns
 - verbal and non-verbal input
 - internal feelings/emotional reactions
 - the group's process and task work – perceived problems with the group process, reacting to group's efforts to engage the learning advisor as task facilitator
- How do Action Learning coaches decide what kinds of interventions to make?
 - Learning opportunities
 - Shifts or gaps in group or problem-solving process

Study Snapshot



O'Neal (1999)

- What mental models do Action Learning coaches use?
 - Kolb Learning Cycle (1984)
 - Honey-Mumford learning style (1995)
 - Action Science & Ladder of Inference (Argyris, Putnam & Smith, 1985; Argyris & Schon, 1978)
 - Group development and group problem-solving models
 - Dialogue (Bohm, 1996)
 - Belbin roles (1993)
 - Tavistock model of group dynamics (Bion, 1961)
 - Gestalt theory

Study Snapshots



O'Neal (1999)

- What kind of interventions does a learning advisor make?
 - Contracting roles and confidentiality
 - Questioning
 - Programmed knowledge and just-in-time learning
 - Encouraging participants to give help and feedback
 - Helping group deal with emotions
 - Making work more explicit and concrete
 - Transfer of learning
 - Enable learning
 - Challenge the group
 - Model learning advisor skills

Study Snapshot



O'Neal (1999)

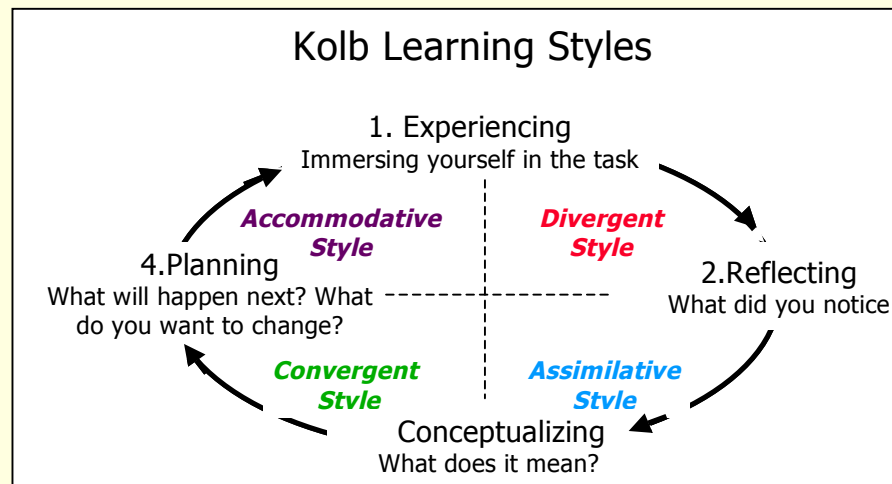
- Comparison of learning advisors' espoused theory and their actual theory in use (Argyris & Schon, 1978)
 - Learning advisors' espoused theories, and in some cases their actual practices, are affected by how they believe learning takes place in Action Learning and by their mental models or metaphors for practice
 - learning advisors employing mental models are more likely to have theories in use that match their espoused theories of practice

Study Snapshots



de Haan & de Ridder (2006)

- Quantitative/exploratory, Level II-3
- Surveyed 126 European managers and professionals in 39 organizations 3 months- 2 years after programs – presence of skilled coach unknown
- Questionnaire based on the Kolb Learning Style model - rated agreement on 4 pt scale (definitely no, no, yes, definitely yes) - “In action learning, I learn to link things to knowledge I have gained before.”



Study Snapshot



De Haan & de Ridder (2006)

■ Highest rated items –

- receiving valuable feedback – $\bar{X} = 3.51$ (divergent)
- concentrating on the crux of the issue at hand – 3.45 (divergent)
- using methods that resulted in an in-depth exploration of the issues – 3.54 (divergent)

■ Lowest rated items

- gaining greater insights into the strong points of my functioning - 2.94 (divergent)
- following new routes in my work - 2.80 (convergent)
- improving interactions with clients/customers/managers - 2.58 (accommodative)
- changing the way I work - 2.56 (convergent)

#3 - What are the significant success factors for conducting successful Action Learning programs?



Summary of Success Factors for Action Learning

Team-Level Processes

- Skilled coaching
- Diversity & behavior of team members
- Self-directed team process
- Effective team presentations
- Review of team process

Organizational-Level Processes

- Ensuring implementation of solutions
- Orientation – communicating alignment and importance of problem
- Problem selection
- Support of top decision makers
- Leveraging resources – communication & collaboration across the organization

Study Snapshot



Kim, J. (2007)

- Quantitative/exploratory, dissertation, Level II-3
- Developed 53-item questionnaire
 - Literature review of success factors
 - Interview with 17 participants
 - Panel of 4 Action Learning experts organized into 16 factors
- 288 Action Learning participants from Korean companies rated each item using Likert scale (6 = strongly agree, 1 = strongly disagree)
- Typical item - “The learning coach knew when s/he needed to intervene in a team meeting.”

Study Snapshot



Kim, J. (2007) – top 10 success factors

Rank	Category	Items	Mean	Sample item
1	Orientation	1	4.80	Opportunity to ask questions
2	Team meeting	8	4.65	There was regular reflection time to enhance learning
3	Launching the program	3	4.60	The objectives of the program were well aligned with the goals of the org.
4	Problem selection	4	4.55	The problem was very important to the org.
5	Participant competency	5	4.53	Participants felt responsible for the accomplishments of the program
6	Coach role	3	4.52	The coach had abundant experience in Action Learning
6	Data collection	3	4.52	Collected data were analyzed comprehensively
8	Strategic alignment	4	4.48	The objectives of the program were well aligned with the goals of the org.
9	Other stakeholder help	2	4.47	The sponsor had commitment to provide support for the success of the program
10	Presentation	3	4.46	The solutions were presented to top management

Study Snapshot



Knox (2002)

- Qualitative/exploratory, dissertation, Level II-3, III
- Interview – 30 of 1700 participants of AL program in US Fortune 500 company
- 6 themes
 - Setting the context
 - Timely chartering
 - Involvement of key decision-makers
 - Follow-up plan for implementation of solutions
 - Thorough debriefing of presentations to management
 - Promote collaboration and cooperation across the organization

Study Snapshot



Kim, U. (2003)

- Quantitative/exploratory, Master's thesis, Level II-3
- 132 new managers in Korean who participated in AL
- Survey, interviews, & Observational data
- Success Factors
 - Self-directed team working in a voluntary culture
 - Diverse team membership
 - Experienced coach
 - Thorough implementation of team solutions

Different Kinds of Evidence



Following Cronbach & Suppes (1969)

- Evidence for drawing valid conclusions – can we reject the null hypothesis? Inferential statistics
- Evidence for making decisions – Is it worth it? Return on Investment

To make a convincing case for practice, we need both metrics

Priority Research Needs



Definitive, Level – I study of Action Learning Effectiveness

- Site – Executive MBA program
- Students recruited to participate in study of team problem-solving
- random assignment of subjects
- include a control group
- All teams have the same problem
- double-blind methodology
- IV's – AL without coaching, AL with coaching, control group
- DV's – solution quality, creativity, & value; behavioral assessment of team and individual development
- Sophisticated use of inferential statistics.

Priority Research Need



Rigorous calculation of ROI for Action Learning program

- Address Kirkpatrick's level 4 – Organizational results
- Estimated value of the solution/costs of the program
- More formally, ROI is equal to the accumulated *present value* of a solution over a certain period of time divided by the initial costs
- This calculation is well within the capability of most companies to compute

Summary



- Applied psychology has much in common with other areas of practice – medicine, clinical psychology, and management
 - Difficulty in conducting “gold-standard” level of research
 - Research limitations of practitioners
- Yet, data for drawing conclusions and making decisions exists everywhere
- We can make our practice more evidence-based by
 - Aggregating & triangulate the data
 - Assessing the quality of the evidence, and
 - **Use good judgement and critical thinking skills to assess the evidence**
- “No research without action and no action without research” (Lewin, 1948)

Thank you



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