Mixing Methods and Publishing in IS Action Research

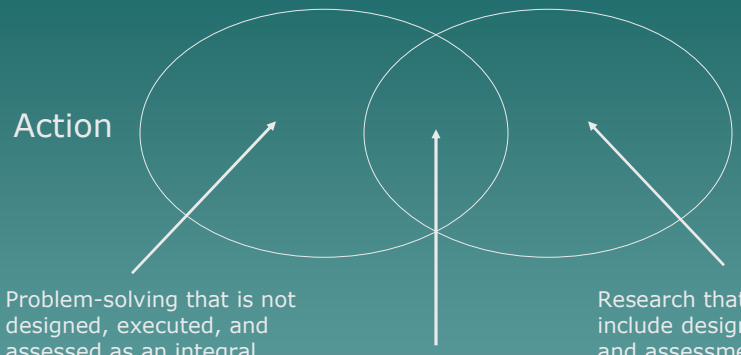
Lars Mathiassen
Center for Process Innovation
Computer Information Systems
Georgia State University

Action Research: What

Action research aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework.

(Rapoport 1970, p. 499)

Action Research: What



Problem-solving that is not designed, executed, and assessed as an integral part of a research effort

Action research, i.e. research that includes and is mainly based on practical problem-solving

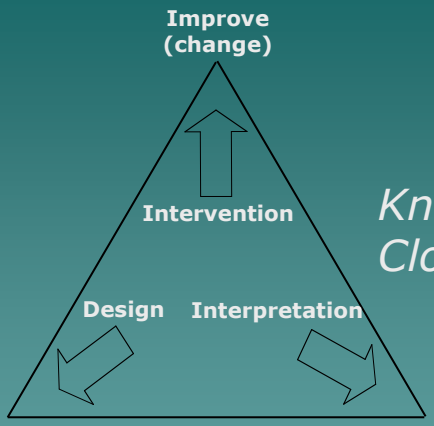
Research that does not include design, execution, and assessment of one or more problem-solving cycles

Action Research: Why

+ Provides first-hand and deep insight into IT related practices
+ Supports development of relevance criteria
+ Includes complete learning cycles
+ Provides opportunities for industrial collaboration and funding

- Highly dependent on problem-owner
- Research focus emerges
- Always case-based
- Not yet a main stream approach to IS research

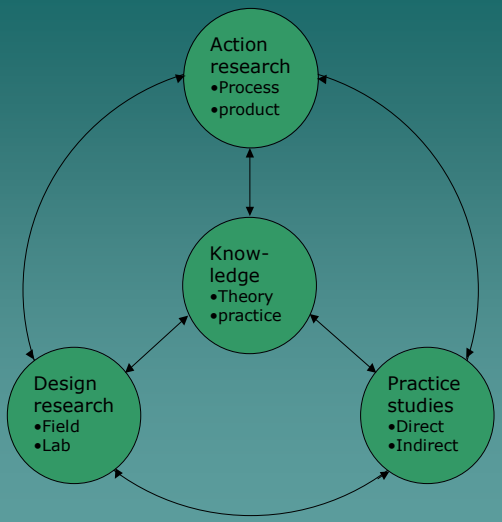
Action Research: Why



Knowledge interests: Closing the cycle

(Mathiassen 1998, 2002 adapted from (Vidgen & Braa 1997))

Action Research: How



Pluralist methodology

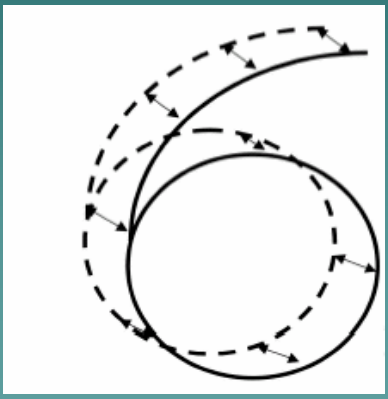
(Mingers 2002; Mathiassen 2003)

(Mathiassen 1998, 2002 adapted from (Nunamaker *et al.* 1991))

Action Research: How

Dual Cycles

(McKay & Marshall 2001)



Problem Solving Cycle

- P – Real-world problem situation
- M_{PS} – Methodology for solving the problem
- Findings about P and M_{PS}

Research Cycle

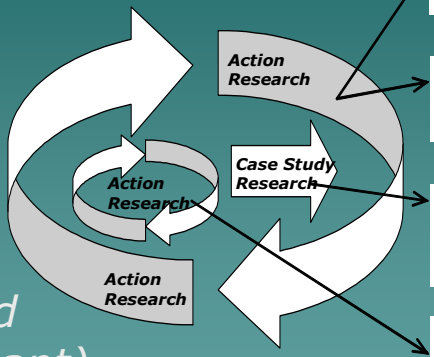
- A – Area of interest
- M_R – Methodology for conducting the research
- F – Theoretical framework to guide intervention
- Findings about A, M_R, and F

Challenges

- How does pluralist research methodology apply to action research, i.e. how can you mix action research with other research methods?
- How do you manage knowledge across the dual cycles, i.e. how can you mix research and problem-solving methods in action research?
- How can mixing of methods help you publish action research studies in top journals?

Mixing Research Methods

Chaisson, M., Germonprez, M. & Mathiassen, L. Mixing Methods in Action Research: The Case of Information Systems, Submitted to ISJ.



Mathiassen et al. (2002) presents lessons based on action research in overall project.

Aaen et al. (2001) presents theory based on literature survey and experiences from overall project.

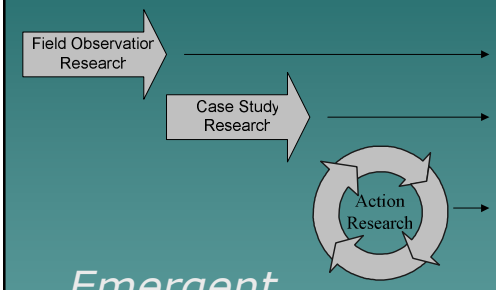
Iversen and Mathiassen (2003) presents case study based on focused initiative in one organization.

Iversen et al. (2004) presents risk approach based on action research in one organization.

Planned (dominant) approach

Mixing Research Methods

Chaisson, M., Germonprez, M. & Mathiassen, L. Mixing Methods in Action Research: The Case of Information Systems, Submitted to ISJ.



Majchrzak (1997) providing validation that the knowledge base component of TOP modeler was complete, consistent, correct, testable, relevant, usable and reliable

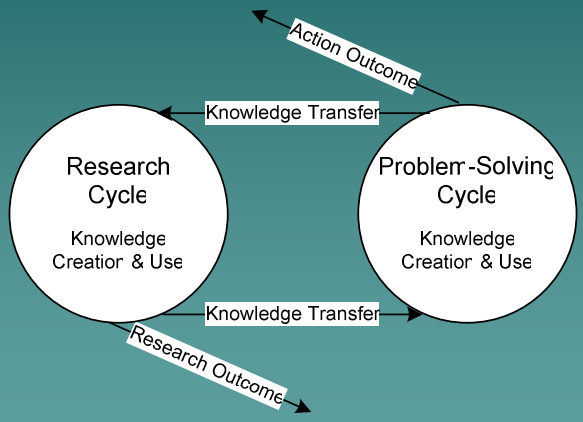
Majchrzak and Finley (1997) and Majckrzak & Gasser (2000) studying use of TOP Modeler

Markus et al. (2002) presenting design theory for emergent knowledge systems

Emergent (sequential) approach

Mixing Other Methods

Chaisson, M., Germonprez, M. & Mathiassen, L. Mixing Methods in Action Research: The Case of Information Systems, Submitted to ISJ.



Journal Publications 82-05

Journal	*Papers*
ITP	16
ISJ	11
MISQ	9
EJIS	7
I&O	7
DataBase	5
I&M	4
JMIS	3
ISR	0
JAIS	0
Total	***62***

Year	*Papers*
82-85	1
86-89	1
90-93	2
94-97	9
98-01	22
02-05	27
Total	***62***

Mixing Methods 82-06

Type of mix	*Papers*
Planned	25
Emergent	37
Research dominant	27
Problem dominant	16
Interactive	19
Total	***62***

Action Research Lessons

1. Use emergent AR to leverage ongoing research programs
2. Use planned AR to create funded R&D collaboration with industry
3. AR projects provide several publication opportunities
4. AR projects can benefit from pluralist research methodology
5. Plan how to mix methods across the dual cycles
6. Specify A, P, $M_{R,}$ M_{PS}, and F up front and revise as needed.
7. Learn from publications in top journals.

1. Aaen, I., Arent, J., Mathiassen, L. & Ngwenyama, O. A Conceptual MAP of Software Process Improvement. Scandinavian Journal of Information Systems, Vol. 13, 2001.
2. Checkland, P. (1991) From Framework through Experience to Learning: The Essential Nature of Action Research. In: H.-E. Nissen *et al.*: *Information Systems Research: Contemporary Approaches and Emergent Traditions*, Amsterdam: North-Holland.
3. Germonprez, M. & Mathiassen, L. The Role of Conventional Research Methods in Information Systems Action Research. IFIP WG 8.2 Conference, Manchester, UK, 2004.
4. Iversen, J. & L. Mathiassen (2003) Cultivating and Engineering of a Software Metrics Program. *Information Systems* Journal, Vol. 13.
5. Iversen, J., L. Mathiassen & P. A. Nielsen (2004) Managing Risks in Software Process Improvement: An Action Research Approach. MISQ, Vol. 28, No. 3.
6. McKay, J. & P. Marshall (2001) The Dual Imperative of Action Research. *Information, Technology & People*, Vol. 14, No. 1.
7. Mathiassen, L. (1998) Reflective Systems Development. *Scandinavian Journal of Information Systems*, Vol. 10, No 1&2.
8. Mathiassen, L., Pries-Heje, J. & Ngwenyama, O. (Eds.). Improving Software Organizations—From Principles to Practice. Addison-Wesley, 2002.
9. Majchrzak, A. "Software to Support Socio-Technical Design: The Case of TOP-Integrator," In G. Salvendy, M. Smith and R. Koubek (Eds) *Design of Computing Systems,* Elsevier, New York, 1997, 229-231.
10. Majchrzak, A. and Finley, L. "A Practical Theory and Tool for Specifying Socio-Technical Requirements to Achieve Organizational Effectiveness," In J. Benders, J. de Haan, and D. Bennett (eds.), *The Symbiosis of Work and Technology*, Taylor and Francis, London, 1995, 95-116.
11. Majchrzak, A. and Gasser, L. "TOP Modeler," *Information, Knowledge, & Systems Management* (2:1), 2000, 95-110.
12. Markus, M.L., Majchrzak, A., and Gasser, L. "A Design Theory for Systems that Support Emergent Knowledge Processes," *MIS Quarterly,* (26:3), 2002, 179-212.
13. Mathiassen, L. (2002) Collaborative Practice Research. *Information, Technology & People,* Vol. 16, No. 4.
14. Mingers, J. (2001) Combining IS research Methods: Towards A Pluralist Methodology. *Information Systems Research,* Vol. 12, No. 3.
15. Nunamaker, J., M. Chen & T. D. Purdin (1991) Systems Development in Information Systems Research. *Journal of Management Information Systems*, Vol. 7, No. 3.
16. Rapoport, R. N. (1970) Three Dilemmas in Action Research, with special reference to the Tavistock Experience. *Human Relations,*,Vol. 23, No. 6.
17. Susman, G. I. & R. D. Evered (1978) An Assessment of the Scientific Merits of Action Research, *Administrative Science Quarterly,* Vol. 23.
18. Vidgen, R. & K. Braa (1997) Balancing Interpretation and Intervention in Information Systems Research. In: A. Lee *et al.*: *Information Systems and Qualitative Research*, London: Chapman & Hall.