A Paradox Wrapped in a Mental Muddle
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Research Librarian

Agenda for Presentation

- Presentation in two major sections:
  1. Everyday Praxis:
     An evaluation of the Knowledge Translation literature based on everyday thinking and acting within the Knowledge Utilization Project over 3 years.
  2. Knowledge System Strategy:
     A resolution of the conceptual difficulties using Wittgenstein’s Family Resemblance theory and Holzner & Marx’s (1979) Knowledge System concept.

Brief History

- Employed by Dr. Harley Dickinson for Knowledge Utilization and Policy Implementation (KUPI) group, Summer 2003
- Engaged in retrieving and organizing the various literature on Knowledge Utilization
- Investigated many Knowledge resources and finding a way to classify resources through a Faceted Analysis
- Collaborating in Research Projects and Paper submissions

Praxis & Knowledge Society

- A new way of thinking // working with different types of processes that don’t quite fit traditional professional roles:
  - Knowledge/Information Broker
  - Linking Agent
  - Informationist
  - Researcher (but in different areas)
  - Fundraising
  - Funding Research

Knowledge Work Changes

- Information Retrieval
- Organization of Information
- Records Management
- Web and Databases
- Project & Information Consultation
- Research Collaboration

The Librarian’s Work
Overview: Bibliometric Data

- Web of Science
  - 52 Results
  - Health
- Academic Search Premier
  - 72 Results
  - Mix of Health and Knowledge Management
- Google Scholar
  - 1,580 Results
  - Plus "Health" search term equals 1300 Results

Information Retrieval

- Dispersed Literature
  - Resources (articles, conference reports, etc.) are scattered among various databases.
  - Although my main focus has been social sciences, you cannot take anything for granted. I’ve found valuable social science resources in both Engineering and Computer Science Journals.
- Terminological Tangled Vocabulary
  - There is a diverse terminology
  - Transfer, Diffusion, Translation, Exchange, Utilization, etc.

Information Retrieval

- Knowledge Paradigms
  - Technology Paradigm
    - Computer Systems and Data
  - Innovation Paradigm
    - Diffusion of innovation for industrial innovation (e.g., Utilizing the Triple Helix Model of innovation.)
  - Organizational/Business Paradigm
    - Knowledge Management/Transfer for human resource knowledge sharing (i.e., Communities of Practice)
  - Policy Paradigm
    - Titanic efforts to apply research based knowledge by policy makers in Health, Science, and Social Science.

Early References to KT

Education Based Application

- Beal (1978) "Knowledge Translation and Education Policy"
  - Focuses on the Study of Production and Utilization of Knowledge
  - Responds to critics of Knowledge Systems thinking by presenting various non-linear stages
  - In Knowledge Translation, “Linkers” translate the available knowledge into terms applicable to the clients’ formulation of their problems.
  - Exchange of knowledge between users and producers of knowledge is stressed.

Agriculture / Rural Development

  - A “Communication Systems” paradigm is championed, a system with interrelated functions.
  - Production, Management, Translation, Development, Dissemination, Adoption/Utilization
  - Translation synthesizes and converts scientific research into information useful to product-developers attempting to formulate solutions to practical problems

Technological

- Grantham (1985) “Technology Transfer: The Organizational Role”
  - Addresses organizational components of Knowledge adoption and diffusion
  - Critical to the discussion is the reframing of knowledge from the “knowledge translation” stage to product development stage
  - Discusses this in light of organizational communication (e.g., Weber)
Definitions of KT

CIHR Definition

Knowledge Translation as the exchange, synthesis and ethically sound application of knowledge—within a complex system of interaction among researchers and users.

Implementation Research Definition

Aims to uncover the influences on healthcare practitioners’ beliefs, choices and decision making in order to identify what combination of methods would achieve the behavioral shifts required to improve practice.

Knowledge Utilization Definition

A common term than either research implementation or translation and of the many terms available, closely related to knowledge translation.
- Includes research, scholarly and programmatic intervention activities aimed at increasing the use of knowledge to solve human problems.

Examples of KT: Health

Community Perspective
- Bowen & Martens (2005) Demystifying Knowledge Translation
  - To understand KT from the perspective of Community partners
  - Over 100 Semi-structured interviews with project stakeholders over first 3 years of project
  - Identified many facets from the theory: trust, relationships, multidirectional info exchange, relevant research production
  - Community has a different idea about what is important in KT than researchers

Clinical and Policy Implementation
- MacDermid et al (2006) Defining the effect and mediators of two Knowledge Translation strategies designed to alter knowledge, intent and clinical utilization of rehabilitation outcome measures
  - Criticism of national initiatives for KT
  - Physical / Occupational Therapists (n=144) recruited to test two KT strategies at 3 sites in Canada
    - Stakeholder Hosted Interactive Problem Based Seminar
    - Online Problem-Based Tutorials
  - Includes a KT impact assessment

Examples of KT: Health

Clinical
  - Dissemination of evidence into clinical practice.
  - Distinguishes between research findings and research tools
  - Suggests that KT has focused either on patients or providers but not their interaction or other parties.
  - Ultimate goal is patient-centred medicine
### Examples of KT: Health

**Technology Paradigm**
  - Associated with Decision-support systems
  - Transfer/translation of knowledge means a system which improves clinical decision making.
  - Translation of ideas is needed between all people and systems.
  - Communication between clinicians and parents is of critical importance

### Examples of KT

**Aboriginal Health**
- Smylie et al. (2006) “Culture-Based Literacy and Aboriginal Health”
  - Indigenous conceptualizations of literacy must build on Indigenous perspectives/understandings
  - Supported through review of relevant literature including Knowledge Translation strategies
  - Researchers are working in with Indigenous communities, as partners, to pilot models of knowledge translation
  - Linkage between Literacy and KT is identified

### QEOL Examples: Mandating

**Health Policy**
- CIHR funded Projects
  - [http://www.cihr-irsc.gc.ca/e/31940.html](http://www.cihr-irsc.gc.ca/e/31940.html)
  - Sustainable, Well Funded National Strategy
  - Utilizing the knowledge already in place
    - “Of Life and Death” Senate report 1995
    - “Still not there” Senator’s Report 2005

### QEOL Examples: Implicit

**Implying a Need for KT**
  - “Although the care of individuals who are dying and of their families has greatly expanded during the past decade, issues related to the needs of seniors who are dying have not been systematically addressed”
  - A need for dissemination of Best Practices
    - Identifying Models of service
    - Ensure autonomy and independence
    - Facilitate emergence of national network
    - Ensure wide access to guide

### QEOL Examples: Explicit

**Palliative Care**
  - Discusses beginning of Hospice movement with roots in England
  - Conceptual framework is using Roger’s “Diffusion of Innovations” theory
  - Breaks down innovation adoption into two components
    - Institutional Adoption
    - Family-centered adoption at the Individual level

### QEOL Examples: Implicit

**Implying a Need for KT**
  - Recognized need for a type of translation of knowledge into codified, acceptable guidelines
  - Study samples guardians and/or parents, healthcare providers, adolescents using open-ended questions
  - For pediatric oncology, guidelines offer assistance with end-of-life decision making in a structured manner that can be formally evaluated and individualized to meet patient / family needs
QEOL Examples: Explicit

Palliative Care
- Degner (2005) “Knowledge Translation in Palliative Care: Can Theory Help?”
  - Provides examples of KT strategies
  - Represents an attempt at “Enlightenment” or “Conceptual” Knowledge Utilization
  - Little to say about actual application of KT within an End of Life care context.

Clinical
  - Starts with the proposition: Research improves nursing and patient care outcomes
  - Barriers to Evidence Based Practice include difficulties with analysis, attitude, poor translation of research findings.
  - Do clinicians actually have the skills necessary for Evidence Based Practice?
  - Evaluate fact sheets on End of Life issues

Fact Sheet on End-of-Life Care

Pain Management
  - Pain management is an example of an evidence based challenge for Nursing
  - Roger’s “Diffusion of Innovation” theory utilized in a Case Study application
  - Applies theory in Nursing context using diffusion components: early adopters, nature of innovation, social system, and communication patterns

Summary of Examples
- All of the examples I provided used different knowledge terminology when referencing their objectives
- Different objects to each study
- Different overlapping concerns
- Implicit vs. Explicit
- Empirical vs. Conceptual
- Tacit vs. Codified

Information Detective
- Search across different databases
- Search across different subjects
- Thesauri/controlled vocabulary
Section 2: Knowledge System

- The philosophy of Ludwig Wittgenstein
  - The utilization of Wittgenstein’s language philosophy

- Knowledge System
  - The utilization of the social knowledge system for conceptual clarity

Ludwig Wittgenstein

Definition: Mental Muddle

- Definitional Dregs and the Mental Muddle
  (From Estabrooks et al., 2006)
  - Includes many concepts
    - Knowledge & research Utilization, Diffusion of Innovation, Nursing Knowledge Models, etc.
  - Also may includes types of studies:
    - Organizational culture
    - Barriers to innovation
    - Psychological
      - Differences between Male and Female knowledge use

Mental Muddles

- Mental Muddles of Language
  - Use and Meaning
  - Private Language
  - Language Games

- Application
  Apply Wittgenstein’s sensitivity with language within the area of Knowledge Translation and Utilization.

Wittgenstein: Muddles

- Ludwig Wittgenstein
  - Family Resemblances Theory – Defining a Game
    - How do we recognize that two people we know are related to one another? We may see similar height, weight, eye color, hair, nose, mouth, patterns of speech, social or political views, mannerisms, body structure, last names, etc. If we see enough matches we say we’ve noticed a family resemblance. We are all familiar (i.e. socially) with enough things which are games, and enough things which are not games so that we can categorize new activities intuitively according to resemblances.

The many meanings of KT causes a Mental Muddle! I’m perplexed.
**Knowledge System Concept**

- **Knowledge System as Organizing Concept**
  - A theory of organizing the Knowledge Utilization concept championed by Holzner and Marx, 1979.
  - Production
  - Organization (Storage and Retrieval)
  - Distribution
  - Utilization
  - Implementation

**Knowledge Cycle**

- Holzner & Marx, 1979

**Family Resemblances**

- Production
- Storage & Retrieval
- Dissemination
- Utilization
- Creation
- Generation
- Organization
- Representation Management
- Integration
- Transfer
- Exchange Translation Diffusion
- Application Implementation

**Organization of Information**

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<th>Research Studies</th>
<th>Theoretical Base</th>
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**State of the Literature**

- **CONCLUSIONS**
  - Disperse, but KT is a relatively new term in use.
  - Little consensus on terminology
  - Wide use of similar theories
  - A need for precision and definitional clarity

Any Questions?