Discourse

Research Utilization: Current Issues, Questions, and Debates

Alison Kitson

> The prejudice of research training is always a certain "trained incapacity": the more we know about how we do something, the harder it is to learn to do it differently. — Kaplan (1964)

Introduction

What is apparent in both the study and the application of research utilization principles and methods is that it is a social process. Our understanding of research utilization has been profoundly influenced by the body of knowledge around diffusion of innovations (Rogers, 1995), and studies informing its theoretical underpinnings have come from such diverse disciplines as rural sociology, communications, marketing and managing, health promotion, and medical sociology. There has been an exponential growth in the number of publications in the area (Rogers) and, equally significant, a widening of the theoretical perspectives from which it is viewed. Diffusion research itself has followed the pattern of the innovations it describes: early adopters developing new ideas and methods which in turn are taken up by more members of the research community. What is still not clear, however, is the amount of theoretical overlap between diffusion research and such issues as research utilization, research implementation, or, most recently, evidence-based practice (Estabrooks, 1998).

Public-health, medical-sociology, and nursing studies around diffusion research and research utilization have been, until recently, modest in both number and influence. The first wave of utilization

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research studies in nursing coincided with a period of major growth in diffusion research generally (Horsley, Crane, Crabtree, & Wood, 1983). The current wave of interest seems to have been prompted by a number of closely related issues. These include: the ongoing debate on how to guarantee a quality service, in terms of both value for money and clinical effectiveness; the significant impact of the movement for evidence-based practice (medicine) on how professionals make clinical judgements; changes in health policy around public involvement in health and professional accountability and remuneration of services proven to be both clinically and cost effective.

There is growing awareness around each of the above trends within the international health community. Changes that have taken place in the United Kingdom around evidence-based practice (Kitson, 1997; Sackett, Rosenberg, Gray, & Haynes, 1996), quality improvement (Leatherman & Sutherland, 1998; NHS Executive, 1996), and broader health policy (Department of Health, 1997) indicate that understanding and being able to influence the speed with which positive changes are introduced into complex systems is a good thing. What is less often debated are the power and control mechanisms already in place in such systems, and the prevailing ideologies or paradigms that determine how problems are identified and investigated and emerging solutions offered. This may be an unintended consequence of diffusion research, where until recently researchers have been more concerned with the mechanics of influencing change than with reflecting upon some of the deeper theoretical, philosophical, and ideological issues that at some stage need to be addressed.

With the accumulation of more evidence on research utilization, we need to recognize our theoretical and methodological blind spots and move from taking comfort in the certainties derived from simplistic reductionist approaches to acknowledging the assumptions, biases, and weaknesses that characterize most of our scientific investigations. The uncertainties of research utilization may make us feel overwhelmed by the complexity and messiness of the job; however, other disciplines are beginning to report unintended consequences of successful innovation and the potentially destabilizing impact that "decontextualized" change can have on local communities. These are important findings that ought to be informing how we structure the next phase of our investigations into research utilization.

It would seem that the key elements needing further exploration are:

- the nature of the new knowledge/research/evidence/innovation being introduced;

- what we know about the diffusion/utilization process itself;
- how the context influences the uptake of the innovation;
- the role of the change agent/facilitator in this process.

These elements form the building blocks of our understanding of research utilization (Figure 1). Each element in itself represents a discrete area of scientific investigation. The real challenge for research utilization studies is to develop sufficiently robust theoretical frameworks to enable us to begin to test different parts of the whole process in a systematic, replicable, robust way.
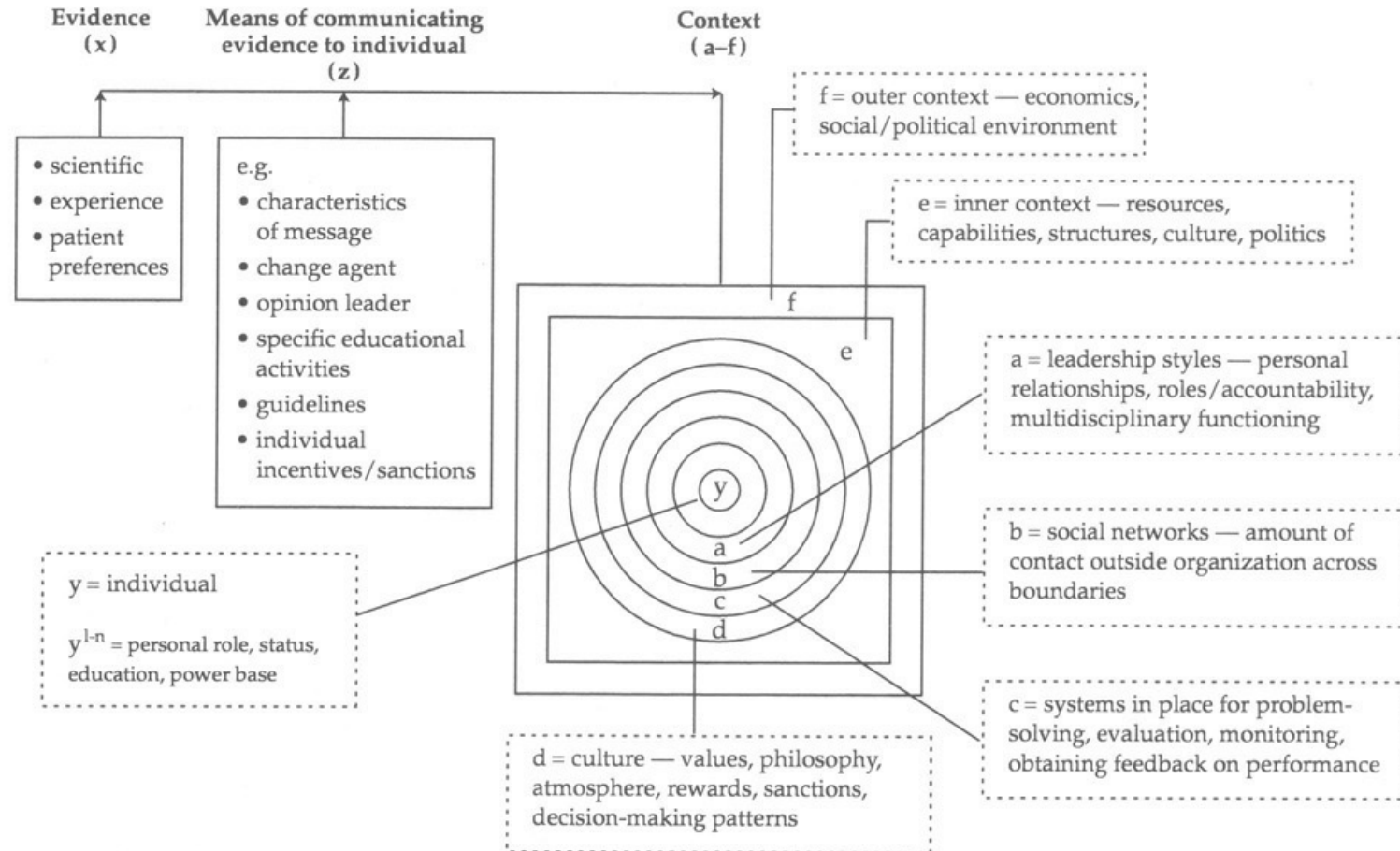
The Nature of Evidence

Variously described as an innovation, new idea, new technology, research finding, and, most recently, evidence, that which gets put into practice has to stand up to scrutiny. Traditionally, the development of scientifically derived knowledge has followed a classical linear, rational, logico-deductive paradigm. Evidence-based medicine follows this tradition by promoting a strong biostatistical, clinical, epidemiological bias upon the production of new knowledge. And whilst it acknowledges the importance of clinical experience and patient preferences in arriving at the best treatments, it does not explain how these different world views are integrated. The tacit or implicit modes of deriving evidence through experience and reflection are considered too subjective to be reliable in a predictive sense. And patient experiences, although interesting, do little (it could be argued) to counteract the predictable course of a pathological process.

Just as individual subjective experiences are subordinate to the traditional, deductively derived approach to knowledge generation, so too are the wider contextual issues such as culture, organization systems, and social, political, and power relations. Evidence is also perceived to be static in that it is a fixed entity. Yet we know that knowledge is of a provisional, fluid, and fast-developing nature, and its effect has therefore to be interactive rather than impersonal. The push of a seemingly rigid system of evidence production is interesting given the significant shift in acknowledging the need for knowledge to be derived from various sources using a variety of mechanisms. It may be that, as a method, the classic evidence-based-medicine model is a useful starting point upon which several further layers of evidence need to be stratified (Estabrooks, 1998; Sandelowski, Docherty, & Emden, 1997).

It is important, at this point, for us to consider how users' needs and problems are communicated to those responsible for generating the

Figure 1   *The Multidimensional Nature of Context as It Relates to Research Utilization*

Evidence
(x)

Means of communicating
evidence to individual
(z)

Context
(a–f)

- scientific
- experience
- patient preferences

e.g.
- characteristics of message
- change agent
- opinion leader
- specific educational activities
- guidelines
- individual incentives/sanctions

f = outer context — economics, social/political environment

e = inner context — resources, capabilities, structures, culture, politics

a = leadership styles — personal relationships, roles/accountability, multidisciplinary functioning

b = social networks — amount of contact outside organization across boundaries

c = systems in place for problem-solving, evaluation, monitoring, obtaining feedback on performance

d = culture — values, philosophy, atmosphere, rewards, sanctions, decision-making patterns

y = individual

y^{1-n} = personal role, status, education, power base

research agenda. It is equally important for us to be involved in debates around ensuring multiple perspectives on the nature of evidence and enabling more appropriate theoretical frameworks and methodologies to be derived that will help explicate the fluid and contextualized nature of evidence.

The Diffusion/Utilization Process

The mechanism whereby the innovation or new piece of research is accepted by individuals in a social system is described by Rogers (1995). This work has had a significant influence on the way our understanding has been structured. Known as the diffusion, dissemination, utilization, or implementation process, it covers five stages. At the knowledge stage, the individual is first exposed to the new idea. Individual characteristics such as educational background, position, and social networks influence the level of interest at this stage. Similarly, attributes of the new idea itself will influence how easily it will be adopted and how much persuasion will be needed to introduce it. The decision to accept a new idea is the next stage. This is interesting because it naturally assumes that individuals can make independent decisions influencing their practice. This assumption may be related historically to the landmark studies of farming communities, which found that individual farmers could make independent decisions (Ryan & Gross, 1943). Studies of physician behaviour (Lomas, 1994) reinforce this autonomy bias. The fact that studies of innovations in nursing found less ability to introduce innovations may illustrate the important relationship between autonomy and choice (Hodnett et al., 1996). Given the limited available evidence and the bias inherent in earlier studies, we may be no further ahead in understanding these complex issues.

The implementation and confirmation stages complete the diffusion process. Again, consistent with the theoretical position taken by Rogers (1995) and other communications experts, the emphasis is on how the message (the innovation) was successfully transmitted to the recipient. What the recipient does to turn the information into a set of observable actions is not central to communications theory. Perhaps this is why relatively little data appear on this part of the process.

The implementation stage is much more pertinent to social psychologists, action scientists, and organizational theorists than to the communications theorists who influenced early conceptualizations (for example, Bandura's [1986] work on social learning theory, Argyris & Schön's [1974] work on action science, and Pettigrew's [1985] perspectives on the link between change and contextual issues). Little connec-

tion has been made between the role of the change agent (in Rogers's [1985] scheme), the opinion leader or research champion, and the implementation process.

Health-care research (Getting evidence into practice, 1999) in this area continues to conceptualize the implementation stage as a point when discreet interventions such as continuous medical education (CME), clinical guidelines, and opinion leaders can be used to enhance the uptake of the innovation. There is scant acknowledgement of the complex interactions, interdependencies, power struggles, and general confusion that characterize most clinical settings.

The Nature of the Context

Arguments are mounting for the need to acknowledge the increasingly large part that context plays in effective research utilization (Ferlie, Barton, & Highton, 1998; Kitson, Ahmed, Harvey, Seers, & Thompson, 1996; Kitson, Harvey, & McCormack, 1998). Research interest is moving away from communications patterns and individual characteristics to a deeper understanding of the wider environmental and organizational characteristics. Change should be considered in terms of not only processes, but also the historical, cultural, and political features of the organization (Pettigrew, 1985; Pettigrew, Ferlie, & McKee, 1992). Pettigrew and Whipp (1991) describe the continuous interplay between core elements of content, context, and process. Similarly, Kitson et al. (1998) argue that successful implementation of research findings is a function of the nature of the evidence, the appropriateness of the context, and the characteristics of the facilitation mechanism used to introduce the change.

The systematic study of the impact of the context on the uptake of evidence (in its broadest meaning) must be recognized as a central area of investigation over the next 5 years. As illustrated in Figure 1, context is multidimensional. If we begin to see the individual recipient of the information as surrounded by this multilayered set of conditions (a–f), we begin to understand why it is that some individuals seem to be more effective in utilizing research than others. Add to this the personal characteristics (y^{1-n}), the characteristics of the message (x), and the way it was communicated (z), and we have yet another set of variables to consider. The ability to map out these elements in some sort of systematic way must be a precondition for being able to study interrelationships and cause-and-effect patterns.

Focus on context also raises questions about the centralist or top-down nature of the classical diffusion model. Rogers (1995) acknowledges that the majority of diffusion studies have been built upon the assumption that rigorous scientific knowledge is developed by experts and disseminated in a top-down way to individual recipients in a system. Schön (1967) notes that classical models fail to capture the complexity of relatively bottom-up or decentralized diffusion systems in which innovations originate from numerous sources and then evolve as they diffuse via horizontal networks. The fundamental assumption of decentralized diffusion systems is that members of the user system have the ability to make sound decisions on what should be diffused and how the diffusion process should be managed. Assumptions have also been made that diffusion research has identified all the key elements that help practitioners utilize research.

How a growing awareness of local ownership and control of diffusion networks balances with the perceived rigidity around evidence-based practice is an interesting point for reflection. It may be that safeguards around the rigour of the evidence are provided by experts but the diffusion process is then supported or facilitated to allow local ownership and control. As Rogers (1995) acknowledges, he has possibly "severely underestimated the degree to which a user system is capable of managing its own diffusion processes."

The Nature of the Change Agent

The growing acknowledgement of wider contextual issues, in turn, changes the emphasis on the nature and role of the change agent within diffusion research or research utilization. Classically, the change agent has been described as an individual who influences clients' innovation decisions in a direction deemed desirable by the change agent. The role has been instrumental insofar as it has worked with individuals to identify a need, provide information, diagnose the problems, and work with the client on achieving the change. There is no explicit reference to the change agent developing improved self-management, self-awareness, decision-making, problem-solving, or reflective skills in the client, thus leading one to deduce that instrumentally the relationship is about completing a task and then retreating.

Within the wider context such a change-agent role is less viable. Given the levels and layers of meaning to be negotiated, the role of change agent is more likely to become one of enabler, guide, support, advocate, interpreter, and facilitator. The roles of external change agent and internal opinion leader are often confused (Getting evidence into

practice, 1999; Kitson et al., 1998), which indicates the need for more careful theorizing and observation in the light of greater understanding of the influence of context.

Also important is an understanding of the mechanism used by change agents to transfer ownership of the innovation from themselves to the internal opinion leader or group. Incentives (e.g., remuneration, gifts, greater status) have been used with some groups, but if we are considering widespread organizational uptake perhaps incentives around equality, autonomy, mutual respect, valuing individual contribution, and so on must be considered.

Concluding Remarks

It would seem that health care (including nursing) is entering a period of intense activity around research utilization methods and practices. We need to take account of existing research findings but acknowledge the theoretical and methodological blind spots. Our new endeavours must offer us the ability to integrate scientifically derived knowledge with personal experience and patient preferences in ways that are rigorous, holistic, and theoretically coherent. We need to recognize the limitations of the many diffusion studies that necessarily focused on communication patterns and individual characteristics. Having mapped out these areas, we must now move on to embrace the complexities of the wider context and how our relationships within that context influence our ability to respond to innovations. Finally, we must face more fundamental questions, concerning whether we can or should entertain the possibility of workers and clients themselves developing that capacity to decide what innovations should be introduced, how, and for what purpose!

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