Journal of Advanced Nursing, 1994, **19**, 969–975

Towards a new model of nursing research

Gary Rolfe BSc MA RMN PGCEA
Senior Lecturer, School of Health Studies, University of Portsmouth, Portsmouth, England

Accepted for publication 26 September 1993

ROLFE G (1994) *Journal of Advanced Nursing* **19**, 969–975
Towards a new model of nursing research
Nursing research is generally located within the paradigm of the social sciences, and therefore reflects the concerns and agenda of social research In particular, nursing has become embroiled in the ongoing dispute between the advocates of qualitative and quantitative methodologies However, it is argued in this paper that whereas the aim of social research is to develop knowledge, the aim of nursing research is primarily to advance practice This paper offers an alternative model of nursing research which categorizes approaches to research not according to the methodology employed but on the extent to which the research process is likely to bring about change These approaches are termed level 1, level 2 and level 3 research, where level 1 researchers are concerned with generating information for others to conceptualize and implement, while level 3 researchers see their aim as directly bringing about clinical change Two approaches to level 3 research are suggested, and examples of projects at all three levels are examined Finally, it is contended that only by adopting an appropriate model of research for a practice-based discipline can nursing address the real issues of relevance to nurses and patients in clinical settings

NURSING RESEARCH AND THE PARADIGM OF THE SOCIAL SCIENCES

Nursing research appears to have reached a dilemma On the one hand, the continuing academic development of nursing is creating a demand for major scholarly works on which to build a research-based profession and nurse tutors are beginning to feel the pressure to research and publish as part of their new role in higher education On the other hand, there are growing signs that nursing research has lost its way There is dispute about the very nature of research and knowledge, resulting in several methodological schools which cannot agree even on first principles, and there is a widening gap between nursing theorists and practitioners, such that the findings and recommendations from a great deal of research is never translated into practical nursing interventions

It is the contention of this paper that the reason for current confusion lies in the location of nursing research within the paradigm of social sciences, and that the methodological disputes reflect an underlying disagreement about the nature of social reality with its roots deep in the history of sociology

This division is generally represented by two main schools of thought The positivist school emphasizes the collection and analysis of quantitative data and its aim is to develop and uncover predictable laws governing the behaviour of individuals and whole societies, laws based on objective data and facts, discovered by systematic observation and scientific experimentation (Cohen & Manion 1985) Thus, as early as 1895, Durkheim stated that 'the first and most fundamental rule is consider social facts as things' (Durkheim 1938)

Correspondence Gary Rolfe Education Centre St James Hospital Locksway Road Portsmouth PO4 8LD, England

Opposed to this positivist view of research is a broad school of approaches which Cohen & Manion (1985) refer to as 'anti positivist', including phenomenology, ethnomethodology and symbolic interactionalism, all of which emphasize the importance of direct observation, subjective experience and 'normal', as opposed to laboratory or experimental, settings They generally adopt a qualitative approach to data collection and as a counteracting argument against Durkheim's advice, Harré & Secord (1972) suggest that 'for scientific purposes, treat people as if they were human beings'

These two approaches to research appear to be based on opposing views regarding the nature of social reality and the role of social science in uncovering that reality August Comte, writing in the mid-nineteenth century, expressed the wish to construct 'a positive science of society' based on 'invariable laws' and saw experimental empiricism as the appropriate method (Comte 1976) Likewise, Durkheim (1938) postulated that 'collective ways of acting or thinking have a reality outside the individual' and are therefore accessible to objective and systematic observation and measurement

Opposed to this view of social reality is the approach which sees social science as being concerned with something more than direct, rational understanding Hence, Weber (1947) writes about going beyond scientific understanding to 'accomplish something which is never attainable in the natural sciences, namely the subjective understanding of the action of the component individuals' Weber seeks to distinguish between explanation (Erklaren) and understanding (Verstehen) and claims that, whereas the aim of the natural sciences is merely to explain, the aim of the social sciences is to understand Furthermore, for Weber, this understanding can only be subjective, therefore the supposedly objective methods of science must of necessity be rejected

Nursing research

Nursing usually accepts this social science model of research a priori, and without question Field & Morse (1985) write of nursing research

> There are presently two major complementary approaches to research These are known as the quantitative and qualitative methods Unfortunately, rather than developing skills in both fields and selectively utilizing an approach best suited to their problem, researchers often decide to restrict their choice of methodology to either qualitative or quantitative approaches

Field & Morse (1985) discuss a number of possible reasons for what they refer to as this 'unfortunate schism', and conclude that it might in part be due to the different ways that quantitative and qualitative methods generate theory and knowledge, since 'in nursing, the primary purpose of both qualitative and quantitative research is the same to develop knowledge' (Field & Morse 1985)

This view of nursing research is widely accepted throughout the discipline, and the observations made by Field and Morse reflect the generally held consensus that the appropriate home for nursing research is within the paradigm of the social sciences However, what many writers overlook is that whereas the development of knowledge might well be the stated goal of most social research, nursing is essentially a practice-based discipline and thus the purpose of nursing research should not be, as Field and Morse and many other researchers claim, to develop nursing knowledge, but to develop nursing *practice*

It might be argued, of course, that a sound knowledge base is essential for good practice, but the simple, causal, linear relationship between theory and practice is beginning to be challenged (Schon 1983, Benner 1984, Usher & Bryant 1989) Thus, it is no longer enough for academics and researchers to produce nursing theories and models in the hope that they will be automatically translated into good practice the relationship between theory and practice is far too complex to permit theorists to make such an assumption (Rolfe 1993)

This paper argues that adherence to the current social science model of research, with its aim of generating knowledge and theory, is impeding the development of good nursing practice It claims that the distinction between the positivist, quantitative approach and the phenomenological, qualitative approach is based on a false dichotomy and that rather than being two distinct and opposing methodologies, they are two points along the same continuum Furthermore, for nursing and other practitioner-based disciplines, the continuum extends to a third position which transcends and resolves the subjective–objective, positivist–phenomenological distinction, creating the foundations of a new model of research specifically designed for nursing

TOWARDS A NEW MODEL OF NURSING RESEARCH

The starting point for the construction of a new model of nursing research is the claim made by the positivist school that research should be objective Shipman (1972) argues that objectivity is impossible, since people 'are fully capable of adjusting their behaviour and the

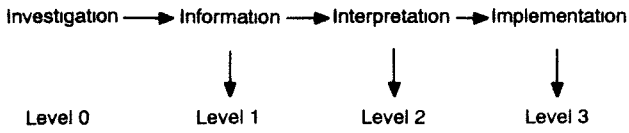

Figure 1 A process model of research

meaning they give to events if a social scientist starts to investigate their lives' People are, he claims, 'skilled manipulators of social situations' and therefore experimental methods in the social sciences lack the precision that they have in the natural sciences, since human subjects do not behave in the same predictable fashion as inanimate objects

There is, however, another way in which objectivity is compromised not only in the social sciences but in all scientific research No matter how carefully the researcher tries to avoid bias in the collection of data, raw data are of little use they require analysis and interpretation And since there are many possible interpretations that can be placed on any findings (Lukes 1981), subjectivity is inevitable if the results are to be of any practical use

The question is therefore not whether social and nursing research is subjective or objective but at what point, and by whom, a subjective interpretation is introduced From this perspective, it can be seen that positivist and phenomenological methodologies simply represent two stages in the transition from raw data to usable research findings This process is displayed in Figure 1

These four levels are roughly analogous to the stages of method, results, discussion and recommendations in research reports It will be argued that, with the exception of level 0, which is the stage of carrying out the study, each subsequent level represents a termination point for a particular type of research, and that these levels form the framework for a new way of conceptualizing nursing research

LEVEL 1 RESEARCH

The purpose of level 1 research is, as far as possible, to present objective findings in a neutral and unbiased fashion Common methods are the survey and the questionnaire, as these are usually considered to possess high levels of objectivity Level 1 research reports may include short discussion and recommendation sections, but the emphasis will be on the presentation of the results The Census is a good example of a level 1 study, since its function is to present a wide range of statistical data in neutral form to be interpreted by policy makers and social scientists for the purpose of analysis and social planning

An example from nursing would be a survey of patient satisfaction with care on a particular ward, the results of which might or might not be acted upon by the hospital managers

It can be seen from Figure 1 that, although the report of a level 1 study might attempt an analysis of the results and suggest certain recommendations, its remit ends with the presentation of the findings and it is the responsibility of someone other than the researcher to interpret and implement them Therefore, many commissioned projects are at level 1, since commissioning bodies generally require neutral results which they can then interpret according to their particular needs and preconceptions, and recommend or implement action in line with their own policies

LEVEL 2 RESEARCH

Level 2 research continues the process to its next stage, and is primarily concerned with meaning and interpretation Some surveys and questionnaires are at this level, but the majority of level 2 studies employ a phenomenological methodology, which

> advocates an approach to examining the empirical social world which requires the researcher to interpret the real world from the perspective of the subjects of his investigation
>
> (Filstead 1970)

Whereas level 1 researchers are asking questions such as 'what?' and 'how many?', level 2 researchers are asking 'why?' and 'how come?' They are not prepared to leave these questions to others, believing that the people in the best position to provide the answers are not outside agencies but the researchers and subjects themselves Furthermore, whereas level 1 studies produce *information* of use to planners and analysts, level 2 research integrates that information into a theoretical framework to produce *knowledge*

Typical methods employed in level 2 research are semi-structured and unstructured interviews, which allow the subjects the opportunity to express their own thoughts and feelings in depth and in their own words, and participant observation, in which the researchers join the group they are investigating in order to experience themselves the reality of being a group member

There are many well-known examples of level 2 research in the social sciences, for example, Goffman's study of life inside a mental hospital in the 1950s Goffman took a job as a ward orderly in order to experience institutional life from the inside, and there is

little doubt from reading his book (Goffman 1968) that it presents a very different picture than would the results of a questionnaire However, many social scientists are distracted at this point into arguing that either quantitative methods such as the questionnaire are better, since they are more accurate and objective, or that qualitative methods such as participant observation are better, since they uncover findings which are more insightful and real

LEVEL 3 RESEARCH FOR A PRACTICE-BASED PROFESSION

It has been claimed in this paper that the development of nursing practice is being impeded by the attempt to apply a model of research which was designed to meet the needs of one discipline to another very different area of study Whereas Weber's (1947) 'explanation versus understanding' debate might be relevant to an essentially academic subject such as sociology, nursing is a practice-based profession and makes different demands of research

It is not enough for nurses merely to explain and understand, they must also put research findings into action and it is for this reason that nursing requires a model of its own, designed to address its own needs In fact, by applying the process model of research outlined earlier in this paper, it can be seen that neither quantitative nor qualitative methods are better, they are simply different, producing different findings for different purposes Whereas level 1 researchers go public with their findings at the 'information' stage, presenting objective results for others to analyse, level 2 researchers see analysis as part of the research process and take on the task themselves, often with the help of their subjects

Furthermore, as a practice-based discipline, nursing has the scope to go beyond the positivist–phenomenological debate to a higher level of research activity The purpose of level 3 research is not just to describe or explain, but to change It could, of course, be argued that *all* research aims to bring about change but, as Figure 1 demonstrates, the decision to implement research findings and the direction that the implementation takes is usually in the hands of outside agencies Thus, the Census does not in itself produce policy change, nor did Goffman's study result in direct improvements in psychiatric hospitals, although other people might use his findings to argue for reforms

Furthermore, many published research reports are simply not read and acted upon by the people with the power to implement their findings The difference between level 1 and 2 research, on the one hand, and level 3 research on the other, is that level 3 researchers retain control and direction over the implementation of their findings, and that the level 3 research process *itself* initiates change What is more, level 3 research transcends the quantitative–qualitative dichotomy, since *any* method can be employed to bring about change

In fact, it makes little sense to discuss research at this level in terms of methods at all rather, we should speak of a philosophy of, or attitude towards, research

Two approaches to level 3 research

It is being argued that level 3 research is research in which the impetus for change is somehow built into the methodology There are many ways in which this could be achieved, two of which will be examined here Level 3 research, as outlined in this paper, is very similar to the action research approach in education described by Ebbutt (1985) as

> The systematic study of attempts to change and improve educational practice by groups of participants by means of their own practical actions and by means of their own reflection upon the effects of those actions

Usher & Bryant (1989) point out that this definition makes four claims about the nature of action research It is research which

1 is carried out by practitioners, or at least, that researchers are actually participating in the practices being researched and working collaboratively with practitioners,
2 improves practice through transformation of the practice situation in the words of Schon (1983), 'the practitioner has an interest in transforming the situation from what it is to something he likes better',
3 involves a process of reflection on, and understanding of, action and its outcomes and of acting through understanding,
4 is systematic in its approach and is open to public scrutiny and critique

Subjective

It can be seen that level 3 research is necessarily subjective in that the changes that it attempts to bring about are those which are considered desirable by the researcher Furthermore, it breaks down the division between researcher and practitioner by encouraging the nurse to reflect on his/her own practice and to modify practice as a result of those reflections

This paper goes a step further by suggesting that level 3 research can also be carried out by patients and clients, either in partnership with their practitioners or independently The first of the two approaches to be discussed here will relate to practitioner-based research as reflective practice and the second to client-based research as co-operative inquiry

Research as reflective practice

Kolb & Fry (1975) describe reflective practice in terms of an experiential learning cycle, involving observation and reflection on an experience, generalization and conceptualization from that reflection and active experimentation to test the generalizations, resulting in a modification of the original experience It is a short step from here to viewing this cycle as a model for action research, with observation and reflection stages representing the collection of quantitative and qualitative data respectively, the generalization stage representing the analysis of the data and the active experimentation stage representing the implementation of the research findings

It might be helpful to consider the process model of research described earlier in this paper superimposed on the experiential learning cycle, where the three levels can be imagined as the points at which the researcher leaves the cycle (Figure 2)

It can be seen that the level 1 researcher leaves the cycle at the observation stage of the learning process, the level 2 researcher leaves at the conceptualization stage, but the level 3 researcher can continue round the cycle as many times as necessary, constantly revising and refining the intervention

What this means, in practice, is that the barriers between the researcher and the practitioner are completely removed Research, in the form of reflective practice, becomes part of everyday activity of nurses They are constantly reflecting on their past and current practice, conceptualizing and generalizing from their reflections and modifying their nursing interventions accordingly

This process does not conform to the pattern of most traditional research, in that there is often a sample of only one subject and there is no external, objective person coming in to 'do' the research It does, however, satisfy the first three of the four criteria for an action research project, outlined above by Usher & Bryant, in being carried out by practitioners, improving practice by transforming the practice situation and involving reflection on action and its outcomes

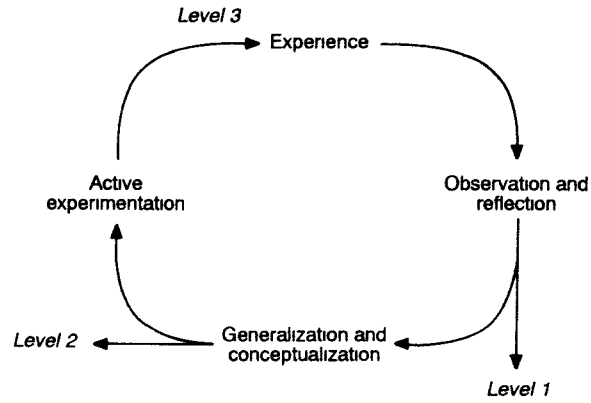

Figure 2 An experiential learning cycle (after Kolb & Fry 1975)

The only other stage necessary is that the outcome be made public and open to scrutiny, which is easily achieved by nurses sharing their reflections with colleagues This is true level 3 research, where the researcher retains complete control over how the findings arising from the work are implemented indeed, it is impossible to separate the implementation from the research itself

Research as co-operative enquiry

Co-operative or new paradigm research was advocated in the early 1980s as a direct challenge to the positivist orthodoxy in social research It is an approach in which research is viewed as being *with* and *for* people rather than performed *on* them, and has been described as

> a way of doing research in which all those involved contribute both to the creative thinking that goes into the enterprise — deciding on what is to be looked at, the methods of the inquiry, and making sense of what is found out — and also contribute to the action which is the subject of the research
>
> (Reason 1988)

Whereas reflective practice breaks down the distinction between researcher and practitioner, co-operative inquiry goes one step further and advocates that researcher, practitioner *and* research subject be seen as equal partners, each with a say in what is to be researched, how it will be done, and how the findings will be presented and implemented It often involves the use of co-operative inquiry groups, in which all participants carry out research on themselves and the other members of the group

Co-operative inquiry is of particular interest to the level 3 researcher because of its adherence to ownership of research findings and its emphasis on active participation in implementation of those findings Hence

Table 1 A new model of nursing research

	Level 1	Level 2	Level 3
Function	Explanation	Understanding	Facilitating change
Methods	Usually quantitative	Usually qualitative	Can be either
Stage in the research process	Presentation of findings	Discussion and interpretation of findings	Implementation of findings
Outcome of research	Information	Knowledge	Action
Relationship of research to nursing	Nursing is informed by research	Nursing is based on research	Nursing is driven by research

> Co-operative inquiry seeks knowledge in action and for action Co-operative researchers may write books and articles, but often the knowledge that is really important for them is the practical knowledge of new skills and abilities
>
> And thus in co-operative inquiry, education and social action may become fully integrated with the research process
>
> (Reason 1988)

Furthermore, although most proponents of co-operative inquiry favour qualitative interventions, it is an approach to research which can accommodate *any* method The co-operative inquirer is therefore free to chose from questionnaires at one end of the spectrum to in-depth interviews at the other, thus demonstrating that level 3 research is not constrained by the quantitative–qualitative schism Indeed, the only constraint on the level 3 researcher who wishes to employ this methodology is that the inquiry group of which he/she is a member should retain control over the use to which the findings are put and benefit directly from the research outcomes

Justice cannot be done here to the full richness of co-operative inquiry, and the interested reader is referred to two edited texts *Human Inquiry* (Reason & Rowan 1981) and *Human Inquiry in Action* (Reason 1988)

APPLYING THE MODEL

It is argued in this paper that the current dispute among nurse researchers between advocates of quantitative and qualitative methodologies reflects the agenda of the social sciences, which sees advances in knowledge as the goal of research However, if it is agreed that the aim of nursing research is to enhance practice, a new model of research distinct from that employed in the social sciences is required

This paper presents such a model, based on a new way of thinking about and planning research in terms of outcome rather than method. Whereas traditional social research is conceptualized in terms of the methodological approach employed, this new model categorizes approaches to research according to the aims of the project and the point in the research process at which findings are made public Three levels are suggested, resulting in outcomes related to explanation, understanding and facilitating change This model is summarized in Table 1

The example of nursing responses to patients who have attempted suicide will be used to illustrate the differences between research projects at the three levels A level 1 study of suicide might ask the question, 'What are the social and demographic factors associated with suicide attempts?', with the aim of explaining the relationship between attempted suicide and variables such as social class, age and gender In order to answer such a question, a quantitative approach would probably be taken, perhaps administering questionnaires to the managers of Accident & Emergency departments of hospitals The aim of the study would be to present statistical data showing correlations between variables in as objective a way as possible, thereby providing information for use in planning nursing services and contributing to the development of nursing as a research-informed profession

Qualitative approach

A level 2 study into suicide might ask, 'Why do people attempt suicide?', with the aim of understanding patients' reasons and motives It is likely that a qualitative approach would be employed, possibly using semi-structured or in-depth interviews with patients who had made attempts on their own lives The aim of the study would be to encourage the subjects to interpret and analyse their stated reasons for attempting suicide, extending existing knowledge in this field, and contributing to the development of nursing as a research-based profession

A level 3 study into suicide might ask, 'How can the rate of attempted suicide be reduced?', with the aim of directly changing the number of presentations to the A & E department Either qualitative or quantitative approaches could be employed in a co-operative inquiry, or else the method of reflective practice might be used In the latter case, nurses would be encouraged to reflect on their work with patients who had made suicide attempts, perhaps using critical incident analysis to examine good and bad examples from their own practice New approaches to working with these patients could be tried out in clinical situations, their effectiveness reflected upon and modifications made accordingly

In this way, the nurse would construct 'a situational repertoire which is forever being expanded and modified to meet new situations' (Schon 1983), becoming an expert with 'a deep background understanding of clinical situations based upon many past paradigm cases' (Benner 1984) In addition, nursing practice would also benefit directly, since the very act of doing the research produces changes and improvements in the way nurses respond to their patients The aim of the project would therefore be to promote nursing action and to contribute to nursing as a research-driven profession

CONCLUSION

While recognizing the importance of research at levels 1 and 2, it is argued that more attention needs to be given to level 3 research, in which strategies for change are built into the research process itself Rather than academics formulating purely theoretical research questions and hypotheses, practising nurses themselves should be asking questions which directly challenge existing practice, and carrying out research which will have a direct impact on patient care

It is only by adopting an appropriate model of research for a practice-based discipline that nursing can move forward and address issues of relevance and importance to real nurses and patients in actual clinical situations

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