

Validity in action research: a discussion on theoretical and practice issues encountered whilst using observation to collect data

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Aim. The paper contributes to an understanding of validity in action research methodology by examining issues arising from our attempts to describe the role of an observer in an action research study.

Background. Our experiences in observing patient care in intensive care settings are used to illuminate discussion on the nature of validity in action research.

Content. The paper examines the nature of validity in action research methodology before briefly describing a study that included observing intensive care staff providing patient care. Various perspectives on observation as a research method are critically examined. These include observer role, level of participation, use of cover, structure and timing of observation. Validity in action research underpins the discussion in the paper.

Conclusion. We conclude that it may not always be possible to categorize the role of the observer within existing definitions. It may be better to summarize the actual observer role as a way of illustrating validity so that the reader can judge the validity of the findings from an action research study.

Keywords: action research, observation, role of the researcher, participation, Hawthorne effect, intensive care

Introduction

Waterman (1998) believes there is a paucity of literature on issues of reliability and validity specific to action research methodology. Altrichter *et al.* (1993) argue that judging reliability in action research can only be carried out on a restricted basis as a result of the unique nature of any individual project. Consequently, authors have tended to focus on examining validity. McNiff (1994) claims that

validity in action research is not about methodology, but is concerned with personal and interpersonal issues. McNiff (1994) does not want to reject methodological theory. Instead, she feels insights acquired in solving issues of validity help inform action research methodology.

This view is supported by Clark (2000), believing action researchers need to present an analysis of decisions made during the conduct of the study to facilitate judgement of validity. Waterman (1998) describes this aspect of validity as

reflexive validity, whereby articulation of the researchers' influences on a study enables the reader to evaluate the appropriateness of their influence.

Whilst these authors address validity in action research, there is a vagueness in consideration of validity in the act of data collection. In particular, there is often a failure to examine the relationship between the theory and practice of data collection. We plan to address this by focusing on the issues encountered whilst we observed staff practising in a critical care environment. The paper will not only describe the influences on our actions, but also consider the problems we have experienced in our attempts to 'fit' these actions into some of the current perspectives on the use of observation. Our intention is to help develop new insights into the validity of observation as a data collection method within an action research study.

Setting for our observation of staff activity

Maintaining the dignity of intensive care patients, particularly minimizing exposure of genitalia, may be problematic. Strategies to prevent patient exposure require great skill. A research team composed of university lecturers and staff from two intensive care units (ITUs) in separate hospitals within the same National Health Services (NHS) trust wanted to collect information about current practice. Analysis of this information would indicate whether or not staff were able to maintain patient dignity by minimizing exposure.

The design and conduct of the study followed the professionalizing model of action research (Hart & Bond 1995). Characteristics of this approach include collaboration between researchers and practitioners, problem identification by practitioners with detail emerging from practice, practitioner led study that aims to improve practice through identification and resolution of causal processes. Our discussions with clinical staff concluded that observation was the most appropriate choice of method for collecting data on existing practice in the first stage of the study. The second stage of the study involved staff participation in focus groups to develop protocols for maintenance of patient dignity. The final stage of the study evaluated conformity to patient dignity protocols.

The rationale for the choice of observation was that it would provide data on the realities of current practice from a first hand perspective. This information would help to provide examples of good practice, that is, how patient dignity was maintained during periods of observation, and also illustrate circumstances in which staff experienced difficulty in avoiding patient exposure. Members of the research team, including university and clinical staff, acted as observers.

A period of observer training involved simultaneous, independent observation of patient care using an instrument we developed. The training resulted in minor modification to the observation tool. Each period of observation lasted 1 hour. A convenience sample of adult patients situated within the open bay area of the two ITUs were observed. Data about situations in which there was either the potential for exposure, or actual exposure occurred, was collected. The low frequency of such exposure incidents, rarely more than four per hour, meant an observer could observe two patients simultaneously.

Staff in the intensive care units were aware that care activity was being observed. The research team felt that making staff fully aware of the study aim prior to a period of observation might influence their behaviour. Therefore, with the approval of the local research ethics committee, staff were not informed about the exact purpose of the study. Debriefing of staff about the true nature of the observation took place once the period of observational data collection had been completed.

The observation proforma (Appendix 1) collected background information on the patient, for example, age, gender, conscious level, clothing, presence of visitors. The next section was structured to provide information on who was involved in each incident, area(s) of the body exposed, nature of intervention by staff member(s), timing of any explanation, length of the exposure and the use of screens. The proforma also contained an open section for additional information about the incident.

Each member of the research team intended to undertake 25 hours of observation. However, we were the only members of the team who achieved this quota. Work-related demands, maternity leave and taking up new posts meant clinical staff could only carry out 17 hours of observation. Consequently, we carried out 50 of the 67 hours of observation.

We will now discuss the adequacy of various theoretical perspectives on observation for describing our experiences as observers.

Role of the observer

Whilst we had collaborated with clinical staff to design the study, we had intended to adopt a detached role as observers, thinking that this might help to promote objectivity in the nature of the collected data (Altrichter *et al.* 1993). However, during the study, we experienced problems in maintaining a detached, researcher role. Many incidents led us to examine our roles resulting in role conflict. We were researchers, namely academics. We also had an intensive care nursing

background in both previous clinical experience and current research and teaching activity. Our experience of working in ITUs made us familiar with the setting, day to day activity, language and staff roles in ITU settings. Staff knew us in our current roles as lecturers with a remit in continuing professional development. We had been tutors/supervisors to many of the staff. However, we were not true practitioners but collaborators who were members of a research team that mainly consisted of nurses who were true practitioners, that is, employed by the ITU. The best way to describe us would be as researchers with practitioner knowledge and experience.

The impact of our presence upon staff behaviour may have been different if we had been either true researchers or practitioners. However, attempting to ascertain such an effect is extremely problematic and would entail detailed comparative research beyond the resources of the research team.

Pretzlik (1994) suggests that it is often impossible to plan the extent of the observer's participation and this led to several issues whilst observing. Whilst most staff knew we were on the unit as researchers, some took the opportunity to use us in our normal academic role. For example, approaches such as 'while you are here, can I just ask?' or 'would it be possible to?' were not unusual.

Gerrish (1997) also describes how she was used as a sounding board or reference source by staff undertaking continuing education. An example of a question asked of the researchers was, 'How do you reference material gained from the Internet?' This and other questions were very difficult to ignore and, while we wanted to concentrate on collecting observation data, we did not want to alienate any of the staff by ignoring them. This was especially difficult if these people were current students and was resolved by conducting impromptu tutorials at the end of the observation period. Not only did we experience problems avoiding combining the researcher and teacher roles, we also had difficulty in preventing any merging of the researcher and practitioner roles.

Participant or non-participant?

The literature often assumes that the observer will take a certain role and maintain it throughout the period of observation. How does one label the observer's role when the proportion of time spent on observing and participating constantly changes? Being 'quasi-insiders', known to the staff as holding knowledge of intensive care nursing, we would often be asked to 'just keep an eye on the patient for a minute' while the nurse went to get something or perform an activity away from the bedside. The time away was often very short, but before it was possible to refuse and explain what

our role was, the nurse would be away and back again. Given the pressure on staff, this situation was difficult to avoid. The staff were using us in a role other than an observer. Fortunately, no patients suffered any adverse consequences. Patients may have even benefited by the observer's presence as it allowed ITU staff to leave the bedside to carry out other activities whilst the patient was being 'monitored' by observers who were sufficiently competent in ITU nursing to ensure patients were not endangered.

The situation illustrates the difficulty of remaining a complete observer. On occasions, the action by staff meant that our role resembled that of observer-as-participant, albeit for a short period of time. The request for us to 'observe' a patient implies that no other members of staff were present. Whilst no direct physical care activity occurred, we monitored a particular patient's vital signs. As the purpose was to observe care activity, altering our role did not compromise the data collection act. However, identifying a theoretical category to describe the changing level of participation in observation and other care related activity was difficult.

For previously mentioned reasons, staff were not aware of the true nature of the observation. We were concerned that we might see examples of inappropriate patient exposure. These situations create a professional dilemma. Should we conform to the professional code of nursing practice in the United Kingdom (UK) by intervening, or should we record data that will then be used to change future practice? The research team agreed that non-intervention would, in the long term, be in patients' best interests. Fortunately, we did not observe any other unsafe practice that would require intervention. However, we had decided that intervention would occur when patient safety was compromised.

Many authors make a clear distinction between participant or non-participant observation. For example, Pretzlik (1994) described participant observation as a situation in which the observer takes part in the phenomenon being observed, that is, the researcher becomes involved in the everyday activities of the group being studied. Participation in a group's activities may sometimes last for a number of months (Sarantakos 1998).

A number of authors, including Bowling (1997), Denscombe (1998) and May (1997), have linked participant observation with an attempt to understand the phenomenon by observing from inside a group, to understand how people, including the researcher, interpret various situations. The participant observer uses an unstructured or open approach to data collection (Bell 1993), normally producing qualitative data (Bowling 1997).

In contrast, a non-participant observer maintains either a literal or phenomenal distance from the phenomenon under

study (Pretzlik 1994), fulfilling no other role than observing human behaviour (Couchman & Dawson 1995). The observer would not participate in everyday activity of the group under study, but instead try to blend into the background in an attempt to reduce any effect their presence might have on the group's behaviour (Sarantakos 1998). The non-participant observer normally uses a structured or systematic tool for recording data to produce quantitative data (Denscombe 1998).

Sarantakos (1998) recognized that attempting to define the role of an observer may not always fit neatly into the two categories of participant and non-participant observation. The observer may, in certain cases, combine elements of participatory and non-participatory roles. In acknowledgement of the issue, Gold (1958) identified four categories of observer role. These are:

- complete participant, that is, participating in a group's activities whilst concealing the observer's role from the group.
- the participant-as-observer spends most of the time participating, with participants' knowledge, in a group's activities. Only a small period of time is spent on formal observational activity.
- the observer-as-participant spends most of the time observing, with only a small proportion of time spent participating in normal group activity.
- the complete observer does not participate in group activities, but is only concerned with observing behaviour.

May (1997) associates the first two roles, complete participant and participant-as-observer, with the definition of participant observer provided by Bowling (1997), Denscombe (1998), May (1997) and Sarantakos (1998). The complete observer and observer-as-participant roles are linked to their definition of non-participant observation. Couchman and Dawson (1995) and Pretzlik (1994) have recognized that the proportion of time spent observing and participating can vary. Consequently, distinguishing between participant-as-observer and observer-as-participant roles may be difficult. One solution has been to describe the partially involved observer role as entailing selective involvement in participation with a group's normal activity (Pretzlik 1994). Alternatively Couchman and Dawson (1995) developed a continuum between the extremes of participant and non-participant observer as a solution to the problem of role definition.

Whilst acknowledgement of the possibility for observers to combine observation and participation roles has emerged in some of the literature, difficulties remain. Determining the specific category, or place on continuum, may not always be obvious. The literature fails to give clear indication of the

relationship between proportions of time spent on observation and participation and definition of the observer role. Such distinctions may be merely semantic. It may be more important to describe the actual observer's role rather than struggle to identify a not wholly appropriate descriptive label.

Overt or covert?

The extent to which the observed are aware that they are being observed has also been used to categorize the role of the observer. Two main categories of observer role emerge from the literature: overt or open and covert or closed observation. Overt observation occurs when participants are not only aware that they are being observed (Couchman & Dawson 1995), but also know the purpose of the study (Sarantakos 1998). In contrast, covert observation means that participants are either unaware of being observed, or that the observer conceals the real reason for observing them (Bowling 1997).

The rationale for covert observation is to reduce the risk of the observed altering their behaviour. The literature assumes that maintenance of concealment will not be difficult in covert observation. However, there may be situations in which the observed become aware that they are being observed by a concealed human observer or hidden camera. It may also be difficult for an observer to maintain their 'cover' for a lengthy period of time, especially when trying to record observational data.

The design of the two participating ITUs in our study meant that observation could not be undertaken from a concealed location. Consequently, staff knew their actions were being observed. However, we employed a degree of cover by not informing staff about which particular aspects of their activity were being observed.

The use of appropriate clothing may help observers to blend into the environment as a strategy to reduce the Hawthorne effect during overt observation. Gerrish (1997) discussed the necessity to dress as a qualified nurse during her study of district nurses. Whilst not participating in care, it was hoped that by dressing as nurses (wearing same uniform as staff) we would blend into the normal ITU activity. We identified both advantages and disadvantages to our choice of clothing. For example, visiting professionals to the unit (specialist nurses, dieticians and consultants) would see us sitting near a bed area and quite reasonably assume that we were members of staff. We would then be approached and asked questions about the patient occupying the bed area. Explanation of our role was necessary. On other occasions, patients who were awake would beckon us over to attend to some need. We felt it was impossible to ignore such requests. Although many visiting members of staff also mistook us for

staff members, the permanent ITU staff knew who we were and what we were doing and would either acknowledge our presence, or ignore us.

Swanwick (1994) advises that non-participant researchers do not interact with participants unless approached. If approached, the researcher should keep the interaction to a minimum while retaining social etiquette. She suggests averting one's gaze or avoiding eye contact as ways of discouraging interaction. However, it was morally impossible to ignore the requests of patients not involved in the study, especially as often their only means of communicating a need was by gaining eye contact with somebody. As we were in uniform it was a natural assumption that we were legitimate members of staff. Consequently, requests from patients were dealt with as swiftly as possible usually by attracting the attention of a member of the clinical staff.

On reflection it might have been better not to dress in uniform. Permanent staff would still have been aware of our presence and the reason for it, whilst non permanent staff and visitors might have been less confused.

An important question concerns what action to take when the people being observed become aware of being observed or the true nature of the observation. Should the observation continue when the observation changes from being covert to overt? The literature does not appear to offer a specific answer to this question. However, Bowling (1997), in relation to overt observation, has suggested that any effect awareness of observation has on participants reduces with time. Individual observers need to consider whether continuation with covert observation after it has become overt will still produce valid data on human behaviour. Any decision needs to be reported, particularly the rationale for the decision.

Inevitably we were asked while we were on the units about the nature of the study. We tried to give answers in a broad sense, not revealing the exact nature of the study. Although some may claim that this is deception the project did have the approval of the local research ethics committee. We did not want to influence behaviour unduly by revealing the true nature of the research. Our aim was to observe the natural stream of everyday ITU life (Alder & Alder 1994). Interestingly, many nurses made the assumption (wrongly) that we were examining staff/patient communication. Therefore, we may have inadvertently affected this aspect of behaviour.

Although we attempted to study the natural stream of everyday life, it is highly likely that we had an influence on behaviour. Observation periods were designated as 1 hour slots and on a number of occasions absolutely no intervention with the observed patient occurred. This is not necessarily unusual as ITU patients require periods of uninterrupted rest.

However, we could not help wondering if this was because staff were aware of patient care being observed.

One incident may confirm these suspicions. After 1 hour of observation, the observer changed position. The same patient was observed for a second hour but from a position much further away from the bed area. Once the new position was taken up, several activities/interventions began to take place. This may have been coincidence, but was more likely due to the influence of the observer's presence on staff behaviour.

Structured and unstructured observation

Observational techniques have also been categorized in terms of the degree of structure used in the observation. Two main approaches in the literature are structured and unstructured observation. Structured observation adopts a systematic approach to observation using an observational schedule to record information on certain aspects of observed behaviour (Denscombe 1998), for example, answering a checklist of questions about observed behaviour (Bowling 1997).

Pretzlik (1994) stated that unstructured observation allows the observer to take notes about their observations on an ad hoc basis. The process of such observation is left to the observer to determine. However, not all approaches fit neatly into these two categories. An observer may want to be more eclectic in the use of structure.

We felt that both approaches were relevant to the study aims. Structured observation enabled a team of observers to collect data on specific aspects of an exposure incident. However, this approach might not have given observers the freedom to collect information that was unique to an individual incident. Whilst unstructured observation might overcome this problem, using a team of observers had the potential for diversity in the observers' approach that risked non-collection of specific aspects about an observed incident.

Some authors have recognized the possibility of combining structured and non-structured approaches to observation. For example, Altrichter *et al.* (1993) recommend the use of a degree of structure in observation as it provides a focus for the observation. If this approach is combined with an unstructured approach, the observer will also have flexibility to collect data on unique incidents. Sarantakos (1998) uses the term semi-structured to describe a combined approach. Unfortunately a lack of detail fails to clarify the nature of this approach, merely describing it as being structured in approach but unstructured in setting.

Another method for combining approaches involves collecting observational data on detailed aspects of behaviour in an unstructured way whilst using a predetermined observational schedule (Pretzlik 1994). This combined approach provides quantitative data through structured observation,

and qualitative data through unstructured observation (Bowling 1997). Denscombe (1998) advocated the use of unstructured observation to produce field notes to complement structured observation data. Observers are then able to move beyond the constraints of a particular method, for example, structured observation, to undertake an approach that promotes understanding of the phenomenon under examination.

In the ITU study, we decided to adopt a combined approach. An observation proforma was devised and piloted. The version used in the study (Appendix 1) contained precoded categories that provided an overview of care activities in which the potential for patient exposure existed, for example, staff group(s) involved, duration of exposure, use of screens, area(s) exposed. In addition, an open section enabled the observer to produce field notes on each observed event.

Timing

Both Swanwick (1994) and Pretzlik (1994) discuss when is the most appropriate time to observe events. One approach is randomly selected time periods, although this may lead to non-collection of information about interesting episodes of behaviour. Using insider knowledge may help to produce data that reflects the reality of behaviour. The research group felt that certain times of the day might potentially lead to more exposure events.

We were less constrained by time than other members of the research team, and they decided to observe at different times of the day to capture the diversity of activity taking place on the unit. An example of this would be the morning ward round, where all patients would be discussed by the multi-disciplinary team and potentially exposed. Night-time was also an issue. One might assume that fewer exposures would take place at night, as patients would be allowed to rest. However, the data collected did not indicate any significant alteration in the number of patient exposure incidents during the night.

The other problem encountered, as mentioned earlier, occurred when no patient interventions took place. This might have occurred naturally or might have been influenced by our presence. This means that observers sat for long periods of time without gathering data. Future researchers should remember that this is a possibility when deciding to observe irregularly occurring phenomena.

Conclusion

The purpose of this article has been to explore some of the theoretical and practical issues encountered whilst using observation as a research method. It has focused on issues

that might arise when using observation within an action research approach in a critical care setting. It has not been our intention to explore issues relating to the specific use of observation in any methodology. Such issues form a greater debate beyond the scope of this article. Instead, we have explored the difficulties experienced when trying to apply the existing literature on observation as a research method to the reality of using observation to collect data within an action research project.

Pretzlik (1994) suggests that observing others is part of everyday life. The use of a more scientific and systematic approach can produce data that may then be generalized. Alder and Alder (1994) state that observation is one of the earliest and most basic forms of research. Attempting to categorize the observer's role within existing theoretical perspectives on observation may be difficult. It may be more appropriate to describe the role of the observer rather than struggle to identify the 'correct' theoretical label. This may then help others to follow the decision making trail, that is, rationale and conduct of the observation. Readers can then make their own judgement about the validity, and to a lesser extent the reliability, of the method.

The use of observation in data collection is not unproblematic. If an observational proforma is to be used this must be developed and tested. Fine-tuning will probably be necessary. If a team of observers is to be used, the observer role should be defined prior to any observation so that the parameters between observing practice and participating in practice are clear. Training observers can then take place both to clarify the observer role and ascertain interobserver reliability if using a structured approach. The team must discuss their workloads realistically and the possibility that there may be differences in the amount of data some team members produce.

Practical problems should be explored and strategies developed to deal with these if they occur. However, this is often easier said than done and it may be impossible to envisage all possible scenarios. Some of the issues encountered during this project included how to dress, how to deal with enquiries and requests from staff and patients, how not to be utilized in your normal role or as an extra pair of hands, no matter how briefly, the influence of the observer on the behaviour of others and non-acquisition of data. Lastly the researcher should consider the issues of time sampling to ensure that the data provide a comprehensive insight into the behaviour being observed.

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Appendix

Appendix 1 Observation proforma

Observation proforma							
Observer	Number						
Unit	1 – Unit A, 2 – Unit B						
Time							
Age	In years						
Gender	1 – Male, 2 – female						
Length of admission	In days						
Conscious level	1 – Unconscious, 2 – semi-conscious, 3 – conscious						
Communication	1 – None, 2 – mouthing, 3 – words, 4 – writing, 5 – talking						
Clothing	1 – None, 2 – garment (specify)						
Location	1 – Open bay, 2 – cubicle						
Visitors	1 – Never present, 2 – partial presence, 3 – present throughout						
Additional information							
Observation schedule: observe and record data for a 1-hour period							
Collect information on all situations where the potential for patient exposure occurs. Record, in order, <i>all</i> coded aspects of the event							
0 – Patient	Code as for	1 – Chest	1 – Examination	1 – Before	0 – None	1 – Yes	
1 – Qualified nurse	staff member	2 – Front genitalia	2 – Technical	2 – During	1 – 1–30 seconds	2 – No	
2 – Student nurse		3 – Buttocks	3 – Positioning	3 – After	2 – 31–60 seconds	3 – Partial	
3 – Health care assistant		4 – Legs	4 – Hygiene	4 – None	3 – 1–5 minutes		
4 – ICU doctor		5 – None	5 – Elimination	5 – Not applicable	4 – >5 minutes		
5 – Non-ICU doctor		6 – Other (state)	6 – Patient				
6 – Physiotherapist		7 – More than one	7 – Other (state)				
7 – Radiographer							
8 – Relative							
9 – Other (state)							
10 – Mixture							
Staff member	Entry of others	Area exposed	Nature	Explanation of intervention	Length of exposure	Use of screens	Notes (note additional space on back of form)