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Tools to look on, look in and look around an Appreciative Inquiry of medication administration practices

Julie Martyn, School of Health

Abstract

Appreciative Inquiry is a methodological approach originating in the discipline of organisation development and management. The principles underpinning this approach can be used to take a new look at the phenomena of nursing practice during medication administration in the in-patient setting of a regional hospital located in south east Queensland. In ensuring that others can judge this innovative perspective as credible in the discipline; it was deemed necessary to gather information from various vantage points. Observation, coupled with interviews were analysed along with researcher reflections and the relevant literature to gain a comprehensive view of the positive aspects of real world practice. The observation data collection tool was designed using internationally recognisable performance indicators, which added to the trustworthiness of the findings. The computer assisted qualitative data software package NVivo 10 provided the platform through which to systematically handle the data.

Introduction

This qualitative study investigated the experiences of nurses in applying medication administration theory to practice. Twenty registered nurses from four in-patient medical/surgical units were observed in practice and then interviewed about their practice. For many years now, nursing inquiry of medication administration practices has been the focus of many qualitative (Dickinson, McCall et al. 2010) (Winterstein, Hartzema et al. 2006), quantitative (McKeon, Fogarty et al. 2006; Armitage, Newell et al. 2010) and mixed methods (Bennett, Harper-Femson et al. 2006) research studies. The area of interest in these enquiries is often a search for the causes of errors or adverse events (Fry and Dacey 2007; McGillis Hall, Ferguson-Pare et al. 2010). Many earlier studies focused on designing systems and equipment to manage, by elimination, the causes of errors and poor outcomes (Wetterneck, Skibinski et al. 2006; Camire', Moyen et al. 2009) with the intention of reducing the problem of medication errors. Some of the literature around medication administration reports on the learning needs of those who administer medications (King 2004; Drach-Zahavy and Pud 2010) while others target human practice factors (Kazaoka, Ohtsuka et al. 2007; Brady, Redmond et al. 2009) with an emphasis on human deficiencies. There is a significant void in the literature affirming any nursing practices of medication administration other than adherence to the standard operating procedure known as the five rights of medication administration. This procedure is promoted by most nursing curricula and healthcare facilities as being the process to identify the right patient, the right drug, the right dose, the right route and the right time of medication administration (Medication Services Queensland 2009; Institute for Safe Medication Practices 2010).

This study describes nursing practice of medication administration that goes beyond the five rights framework and it captures the positive practices and principles that would otherwise have gone unnoticed. An Appreciative Inquiry focuses on the positive aspects of any situation, in this case nursing practice that has the capacity to strengthen and augment quality outcomes (Whitney and Trosten-Bloom 2003, p. 67) that contribute to patient care and safety. Through employing a variety of tools to collect observational data, literature review, researcher reflections, field notes and participant interviews this study observes nursing practice from a new perspective.

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The research design with its various methods of data collection intends to provide a comprehensive appreciative view of these nurses' practices within the context of medication administration to uncover positive aspects that may have been cloaked by the traditional deficit-based approach of the past.

Mainstream development of nursing knowledge, including medication administration practices have been traditionally studied from within the positivist paradigm (Pratt 2012) and with a problem orientated approach (Leung, Chong et al. 2007) and the International Council of Nursing (2009, p. 5) recommend a change because the 'traditional models of work and learning are increasingly dysfunctional for successful performance in today's health systems'. A systematic review performed by Meyer-Masssetti et al. (2011) is representative of the types of methods typically utilized in medication administration studies. The Meyer-Massetti et al. (2011) review of the literature focused on drug related problems reported in incident reports, identified from chart reviews and trigger tools and issues of practice through direct structured observations. Studies generating qualitative data were excluded from the systematic review because the review sought to review studies that reported medication safety assessment methods as numerical data only (Meyer-Massetti, Cheng et al. 2011, p. 228). Quantitative methods do provide valuable information while qualitative studies can provide insight. Insight through Appreciative Inquiry provides a new dimension to nursing research that focuses on what works well and has the potential to 'highlight expertise and everyday accomplishments (Clarke, Werestiuk et al. 2012, p. 593).

The study was promoted to potential participants as a way to observe positive nursing actions rather than the usual inquiry that would focus on deficits and errors. With the knowledge that human systems can project an expected horizon and '...bring the future powerfully into the present as a mobilizing agent' (Cooperrider, Whitney et al. 2008, p. 48) it was necessary to expose the goal of the study so that the participants could enact upon their potential skills and knowledge. The positive principle of affirmation that is central to Appreciative Inquiry (Cooperrider, Whitney et al. 2008, p. 49) was embedded in this study to encourage positive change through affirmative inquiry about nursing's role in medication administration and sharing of this new knowledge with the broader population.

Appreciative Inquiry and qualitative research methods provides a broad outlook from which to research practice factors not previously profiled and can help healthcare to gain an understanding of the positive contributions of the nurses who administer medications in a complex environment by collecting data in the form of words, text, experiences and actions (Hansen 2006, p. 68). This research offers a new approach to an otherwise well-worn deficit-based research path towards medication administration practices. An assortment of qualitative data collection tools were utilised and NVivo 10 software employed to handle the different types of data that emerged from the practice and participant sources.

NVivo 10 data management software

The NVivo 10 computer data analysis software program assisted in bringing all the data together, ensuring that the information could be handled in a way that privileged the knowledge that this study uncovered. Richards (2009, p.115) recommends logical and pragmatic organisation of data as necessary for creativity and reflection of the 'big picture'. NVivo 10 provided a place for centralization of the data and assisted with sorting, categorizing and coding the data as the analysis of recurring concepts lead to the identification of themes and sub-themes. PDF files from the literature review, the observations and the researcher journals could be validated and compared to the textual interview data providing a link to the experiences and reflections of the participants. Ideas prompted throughout the coding phase of the analysis were logged as researcher memos in NVivo 10 and attached to the respective data source within the project file. These memos became

invaluable during subsequent analysis and writing up of findings as reminders and stimuli for deeper examination of the data.

Holistic visualization of the data was facilitated by NVivo 10 through the 'model' and 'relationship' functions providing an alternative analysis mode for further consideration of the perceived connections within and between records. The images can assist by forming a basis for challenging the analysis and questioning the results because as Richards (2009) suggests it is perilously easy to code the data and search for patterns with the assistance of computers these days. The ease of data manipulation through software programs increases ones risk of becoming superficial and therefore, coding and subsequent processes for handling the data must be purposive (Richards 2009, p. 162). Reflection on the models created in this study assisted with consolidation of the coding categories and strengthening the findings. A visual display of the interrelationships in data is a helpful NVivo 10 tool during analysis and also as a means for describing and sharing the results (QSR International Pty Ltd 2010, p. 57).

Coding the Literature

An initial review of the literature to locate the study in relation to other research is the minimum for commencing any project (Hansen 2006, p. 18) that desires to be considered worthwhile. Bryman (2004, p. 526) recommends starting with the on-line data bases relevant to the discipline. CINAHL, MEDLINE, PubMed and Joanna Briggs institute were the first ports of call in this review of the literature and then web-based Appreciative Inquiry sites were reviewed as the project developed. Critical reading and note taking skills are necessary for authentic work and NVivo 10 was useful in coding the literature (figure 1) so that it could become part of the data set through gathering and categorizing the critical points. NVivo 10 memos were attached to articles which prompted further questions and any notable titles from the reference lists of each article were coded to a node called 'Readings' for later review of their relevance.

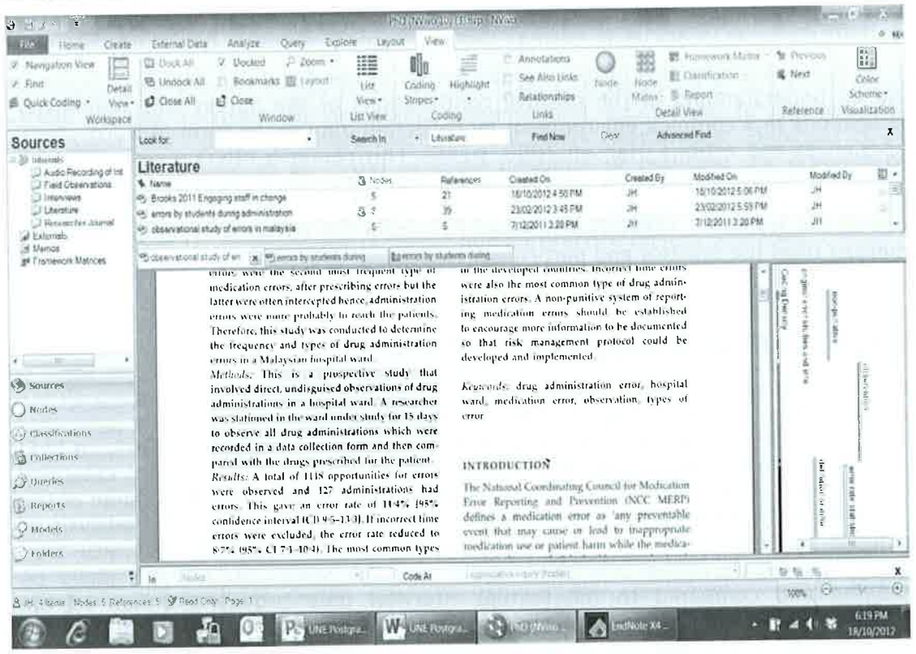

Figure1: Coding the literature in NVivo 10

Observations

Unobtrusive observation, as a data collection method had the advantage of allowing the researcher to be able to see what is happening rather than just being told by others what happens (Hansen 2006, p. 68). In this study, this allowed for unsullied discovery of knowledge embedded in nursing practice. Observation in this study was mobile as the participants were followed while they went about their daily activities (Lopez and Whitehead 2013, p. 133) and the researcher was non-reactive to usual patient care situations. Unstructured and informal observation techniques can permit observer engagement when desired or necessary (Robson 2002, p. 310) as can be the case in patient care settings. Benner (2001) found that exposure of embedded knowledge that informs practice is possible through exploration of nurse narratives while engaging with them in practice. Advocates of Appreciative Inquiry believe that any inquiry, including observation and questioning prompts action (Whitney and Trosten-Bloom 2003; Cooperrider, Whitney et al. 2008) that will alter future practice. Participants of this study were advised that medication errors were not the focus of the study and when asked at interview they reported that after a short time they ignored my presence and became mindful of practicing in the way that they would normally as reported by N1in figure 4.

This was fortuitous in meeting the aims of the study, which sought to identify what 'really' happens when nurses administer medications and to observe how they go about applying their knowledge in ways that contribute positively to the process. Observation is '...pre-eminently the appropriate technique for getting at 'real life' in the real world' (Robson 2002, p. 310) with its value lying in the level of detail and in-depth holistic understanding that is able to be achieved (Hansen 2006, p. 80).

To gain this holistic understanding required that the data be available but only subsequent to protecting participant privacy and respecting confidentiality (Australian Government 2007). The principles of respect through confidentiality were applied here when participants agreed to the release of the data using pseudonyms. This detail was included on the participant information and consent form as part of the consent process which all participants voluntarily completed.

The primary observation tool was named the 'episode tool' because it was designed to capture the observed details of each episode of medication administration. The first page of the episode tool was structured to reflect the six rights of medication administration protocol established for Queensland Health Service (Medication Services Queensland 2009). The Medication Services Queensland (2009) protocol used in this health service for example is based on the internationally recognised five rights of medication administration (Institute for Safe Medication Practices 2010) and includes the right to refuse the medication as the sixth right (Medication Services Queensland 2009). Findings related to this framework will be recognisable to a wider nursing audience.

Demographic data such as workload allocation, patient allocation and shift hours was also collected as part of this structured section of the tool because these factors are often cited in the literature as impacting on medication administration (Hayajneh, AbuAlRub et al. 2010; Wimpenny and Kirkpatrick 2010; Breckenridge-Sproat, Johantgen et al. 2012) and are therefore relevant to the validity of this study.

The second page of the episode tool was a free text page with the following instruction at the top of the page "Researcher Notes and reflections: Impacting factors, Actions, Interventions, thoughts, feelings. Comments/context issues". Descriptive field notes were recorded in this free text area when administration of medication was underway. The field notes documented here consisted of broad descriptions of contexts and conversations. The tool was formatted as a single sided, stapled, two-page document on white paper (see figure 2).

Time/duration: Set up behaviours: Bed Site: Route of administration: ☐ oral ☐ NG ☐ S/L ☐ nebs ☐ topical ☐ drops ☐ SC ☐ IM ☐ IV ☐ PICC ☐ Spacer Verifies patient ID by: ☐ asking name & DOB, ☐ allergies, ☐ Confirming against ID band and ☐ med chart. Verifies drug name: ☐ against chart, ☐ expiry date ☐ indication, ☐ storage, ☐ formulation. Ensures correct dose: ☐ checks calculation, ☐ frequency and ☐ abbreviations. Administers using ☐ correct route Confirms correct time by: ☐ checking clock, ☐ other drugs, ☐ previous dose. Consent gained through: ☐ questioning	Interrupted during procedure by: ☐ The Patient ☐ Another patient ☐ visitor ☐ Nurse ☐ Doctor ☐ Allied Health Professional (Physio, OT, Diet) ☐ Support staff (cleaner, kitchen, wards person) ☐ Other (phone, pager, emergency bell, monitor) Actions of the administering nurse when interrupted: ☐ stopped administration ☐ continued administration ☐ other Concluding behaviours:

Figure 2: Episode data collection tool (front page only)

All other field notes were recorded on separate sheets of yellow paper that were carried behind the episode collection forms on a clip board and used for freelance writing. The different colored paper made for ease of access to this tool that was intended for recording data other than the episode activities. Medication administration can occur in a rapidly changing environment and sometimes amongst and simultaneous to other patient care activities (Manias, Aitken et al. 2004). Borbasi (2005) recommends a review of the practicalities of fieldwork before entering the field and in this study there were issues identified during the pilot observation period when the original double-sided episode tool became cumbersome to maneuver while watching and walking with the participant. Changing to a single-sided format for subsequent observation shifts meant that the structured section of the episode tool just required lifting to be able to document episode related field notes. Field notes documented on the yellow sheets included theoretical notes when initial interpretations arose in the field, methodological notes to inform and guide subsequent observations and reflective notes about my personal experiences in the field (Polit and Beck 2010, p. 354).

Polit and Beck (2010, p, 354) say that descriptive field notes collected during observation enable simultaneous synthesis of data in the field. This initial synthesis in the field provided topics for discussion and clarification during the interview phase that made possible a discerning investigation of the positive practice moments encountered. In-field synthesis also saved time during the subsequent analysis phase because of familiarity with the emerging themes.

The episode data was transferred into NVivo 10 as PDF documents and then coded to existing nodes and initiated new nodes during thematic analysis. In keeping with the Appreciative Inquiry principle of affirmation the data was mined for those specific actions that added value to the medication administration process. Figure 3 is an example of coded nursing actions to confirm the 'right drug' by reviewing the patient specific needs rather than merely confirming what is prescribed is what will be administered.

The nurse is demonstrating a depth of knowledge that exceeds the expectation of the minimum standard. During the interview with her, she shared her stories to explain her acquisition of her knowledge about the specific differences between these drugs and the significance of that to patient care.

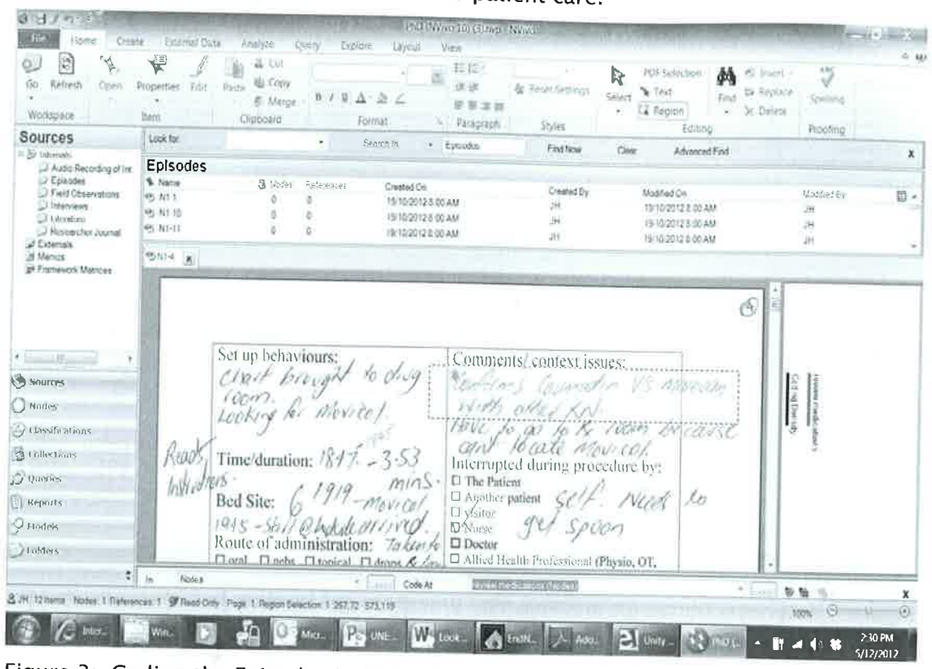

Figure 3: Coding the Episodes in NVivo 10

Interviews

Interviews are widely used in qualitative research and have the advantage of capturing the participants own words to facilitate an in-depth understanding (Hansen 2006, p. 69). Conducting the interviews after the observation phase in this study gave an opportunity for clarification of observed practices and other practice-based issues.

Interviews were audio-recorded at times and places convenient to the participant, which at times was unsatisfactory because venues such as cafes were found to be noisy environments. Coffee machines and heavy vehicle sounds impacted negatively on the quality of the voice recordings making transcribing difficult and time consuming. The recording devices used included a digital recorder and a Livescribe Echo Smartpen™. Dual recording was valuable because there were times when either one or other of the recording devices failed and had there not been a duplicate recording then the interview details would have been lost except for the hand written notes and researcher recollections. The Smartpen™ was particularly helpful in this regard because it records the audio as well as any handwritten journal text and links

the writing to the audio file. The journals are converted to PDF files enabling inclusion as data for coding.

The interview transcripts of the recordings (figure 4) and actual recordings (figure 5) were loaded to NVivo 10 for analysis along with the Smartpen™ journals after they were converted to PDF files (figure 6). Through repeated reviewing of the interviews during transcription as well as coding the audio file: theoretical, methodological and reflective details surfaced that informed the study. The highlighted area of (figure 5) is an example of a methodological issue that emerged.

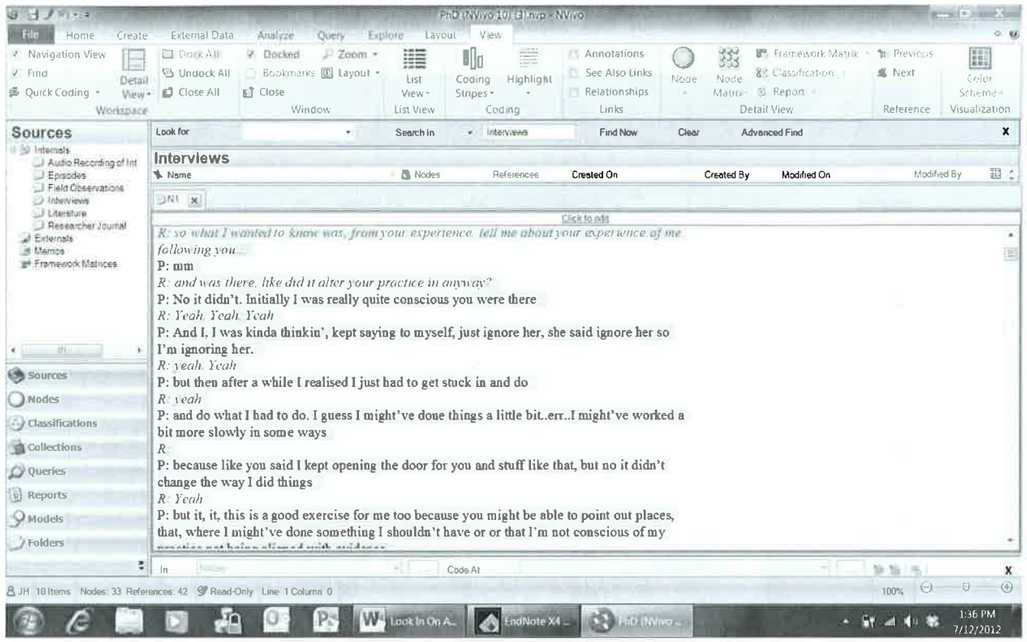

Figure 4: Interview transcript in NVivo 10

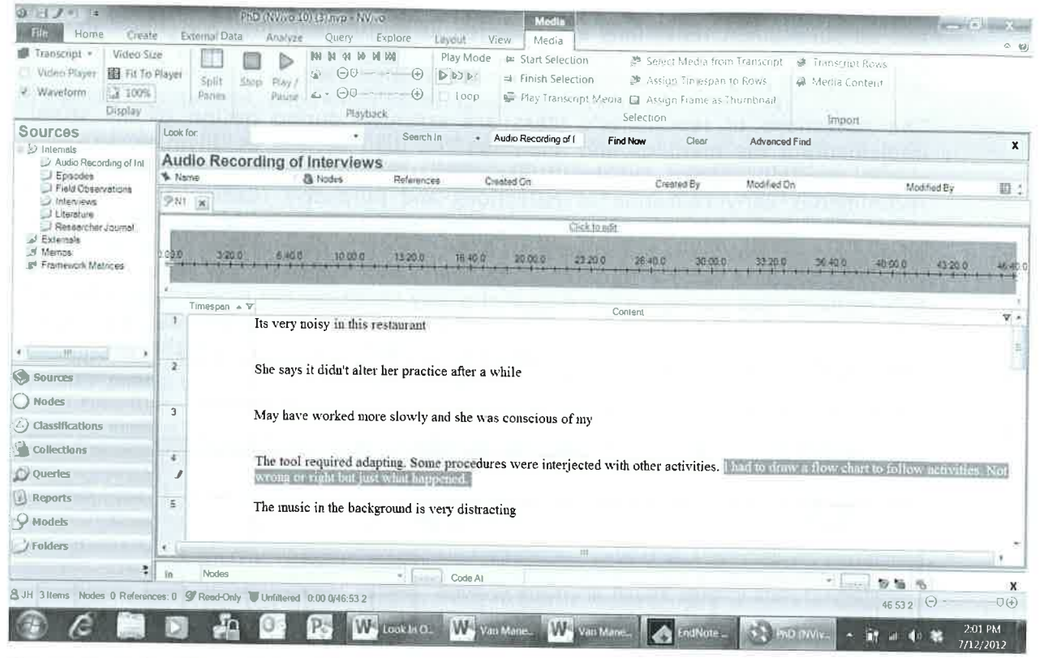

Figure 5: Audio file in NVivo 10

Other information that is sometimes hidden or veiled, according to Van Manen (1990, 27) is the meaning of a participants lived experience. The rights of medication administration that are taught as a ritualized standard operating procedure are believed to reduce errors and ensure patient safety (World Health Organisation 2010). They are portrayed as the framework to follow (Giangrasso and Shrimpton 2013) despite context and situation, even though Gonzales (2012) reports that no standardized method for assessing safe medication administration is evident in nursing education. It was presumed by the researcher that the steadfast perception of nurses would adhere to the rights framework and thus would be reported by the participants. However, when asked about the standout things that they recall from their education, they nominated other specifics and could not recall how they applied the ritual to their practice. In this regard the ability to cross check the observations with the participant during interview recollections by prompting disclosure of what Van Manen (2002,p. 9) describes as taken-for-granted habituated behaviors that are not usually reflected on nor recalled from everyday practice, through reminding them of what happened was beneficial to this Appreciative Inquiry.

Reflection

Regular reflections were conducted throughout the research process and thoughts collected about nursing practice and the topic of medication administration in an attempt to approach the research in the most comprehensive way possible. My first reflections were recorded in an electronic document that has now grown to more than 100 pages since January 2010. I soon realised that recording reflections in this manner was not complete because there were times when computer access was not available. Various paper methods were employed in these circumstances in the beginning stages of the study until the Livescribe Smartpen™ was discovered. The original paper-based notes were transferred to the electronic reflections document

and all subsequent reflections are collected as entries into the Livescribe™ journal (figure 6) or the electronic file. Both files are loaded to NVivo 10 for coding along with the other data.

The collections of researcher's ideas are essential during design of the study, implementing the methods and analyzing the data as well as anything else that might possibly matter to the study (Richards 2009, p.75). Richards (2009) recommends early collection of reflections and purposive reading and reflecting about the data and each data record and says that there is no substitute or alternative for this type of engagement with the study data. NVivo 10 permits easy access to the data sets for simultaneous viewing and reviewing. Van Manen (2002, p. 6-8) explains that gazing on the data in this way sensitises the reader to wonder and reflect about the meanings in the data producing fodder for more in-depth analysis. This study endeavored to achieve this with a view to recognising the worthwhile contributions of the participants to nursing practice.

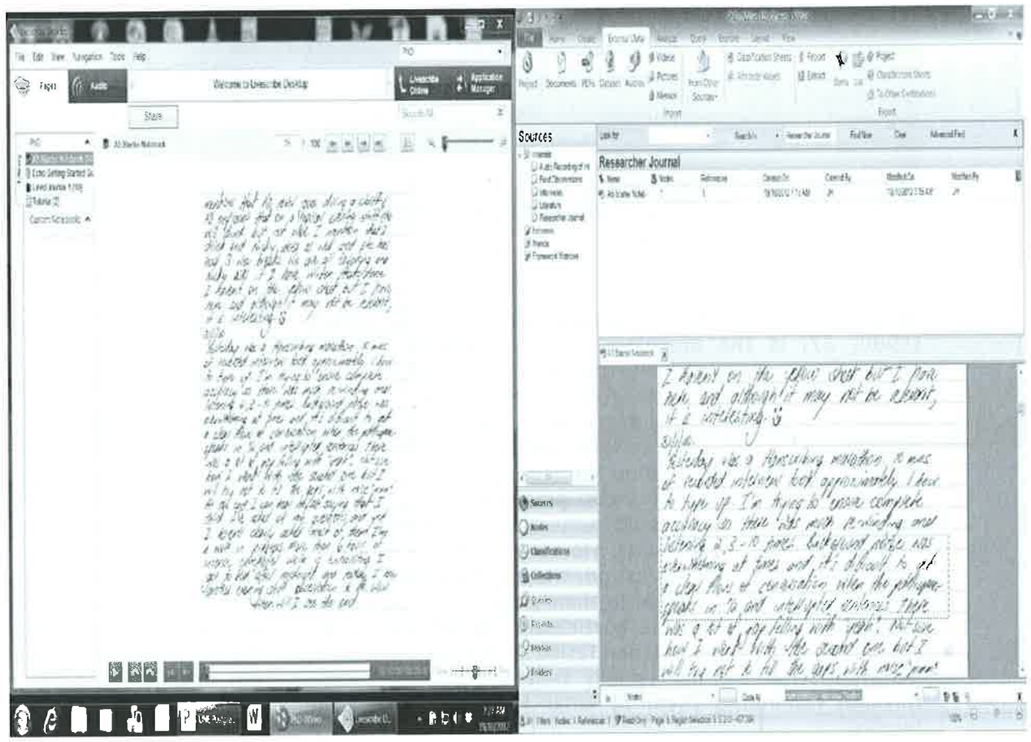

Figure 6: Researcher Livescribe™ journal entry (left) and journal entry in NVivo 10 (right)

Conclusion

Triangulating the investigation by using more than one data collection method (Whitehead and Schneider 2013) can enhance the confidence in the findings derived from the study by enabling cross-checking of concepts arising from various sources (Bryman 2004). The innovative approach to studying nursing practice taken by this project sought establishment of credibility and trustworthiness by thoroughness and transparency (Harding and Whitehead 2013, p. 154). Observations coupled with interviews and supported by reflections and literature were able to be

comprehensively handled using NVivo 10 to provide centralisation of the data facilitating auditability because of the capacity to quickly demonstrate the processes and pathway from the raw data to the interpretation of findings and all the adequacy of the sources used to reach them (Harding and Whitehead 2013, p. 154).

Appreciative Inquiry is an alternative perspective, from which to look on, in and around medication practices rather than from the usual standpoint of a deficit approach that is common in the literature. The data in this study were deliberately collected and analysed from the perspective of a positive appreciation of medication administration practices that contribute to safe and effective patient care.

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