



Cognitions associated with nurse performance: A comparison of concurrent and retrospective verbal reports of nurse performance in a simulated task environment[☆]

James Whyte IV^{*}, Eileen Cormier, Roxanne Pickett-Hauber

The Florida State University, College of Nursing, United States

ARTICLE INFO

Article history:

Received 5 May 2009

Received in revised form 28 August 2009

Accepted 4 September 2009

Keywords:

Verbal reporting

Verbal protocol analysis

Clinical simulation

Research methods

ABSTRACT

Background: Cognitions represent the computations associated with human thought processes. Verbal protocols offer a method by which to record these processes. While concurrent and retrospective verbal reporting of cognitions have been used extensively within nursing and other domains, the use of this methodology in nursing has been characterized by inconsistencies in its application.

Objectives: The primary objective of this study was to describe and compare the content of concurrent and retrospective verbal reports provided by nurses during and after administering care in a simulated task environment.

Design: The study utilized a laboratory based quasi-experimental research design.

Setting: The study was based in a simulation laboratory designed specifically for use in studies designed to measure nursing performance. The laboratory integrated extensive instrumentation that facilitated the comprehensive audio and video recording of participant actions.

Participants: The participants ($N = 15$) were recruited from a College of Nursing at a large university in the Southeastern United States.

Methods: Research participants were asked to admit a patient experiencing an acute exacerbation of congestive heart failure in a simulated task environment, during which they were required to prioritize and provide care. Participants were trained in the method for providing verbal reports of thoughts, and concurrent and retrospective report data were collected during and after the simulation exercise. The data were then coded for the purposes of descriptive analysis.

Results: The results indicated that the concurrent verbal reports provide a more complete representation of the cognitions of research participants providing care in a simulated task environment. However, the results reflect that additional unique data is present in the retrospective reports, exclusive of the concurrent reports.

Conclusions: The findings support the utility of concurrent and retrospective verbal reports as a method of gathering data in studies that address nursing performance in a clinical context.

© 2009 Published by Elsevier Ltd.

What is already known about the topic?

- Verbal reports and verbal protocol analysis are valid and reliable means of measuring cognitions during performance in a variety of domains.
- Concurrent verbal reports provide an accurate representation of cognitions during task performance.

[☆] This research was funded by a grant from the Office of Naval Research, United States Department of Defense, Grant # N00014-04-1-0.

^{*} Corresponding author at: The Florida State University, College of Nursing, RM 415, Vivian Duxbury Hall, Tallahassee, FL 32310-4310, United States. Tel.: +1 850 644 5359; fax: +1 850 645 7321.

E-mail address: jwhyte@fsu.edu (J. Whyte IV).

- Retrospective verbal reports are used with significant variability in studies within nursing.

What this paper adds

- Concurrent verbal reports offer the most complete representations of task performance and task related cognitions during the administration of nursing care in a simulated task environment.
- Concurrent verbal reports offer a more complete record of high-level cognitions as compared to retrospective verbal reports during the administration of nursing care in a simulated task environment.
- Retrospective reports include unique data, for instance, reflective statements, that offer important inferences into cognition during the performance of nursing care that are not present in concurrent verbal reports.

Researchers in nursing have struggled for many years to develop adequate and objective assessments of nurses' abilities to perform in the clinical domain. The characteristics that result in the development of nursing skill beyond mere proficiency toward a level of practice consistent with genuine expertise referred to by [Benner \(1984\)](#), have been particularly difficult to capture in the context of studies designed to measure the ability of nurses to perform in the clinical environment ([Cowan et al., 2005](#)). There is a renewed interest in the study of expertise in nursing that was brought about in large part by studies such as those reported by [Aiken et al. \(2003\)](#) and [Estabrooks et al. \(2005\)](#), which indicated that nursing staff with certain characteristics achieved superior outcomes of care. These studies, however, failed to identify aspects of individual professional development or performance that accounted for these differences.

Cognitions represent the computations associated with human thought processes. Verbal protocols offer a method by which to record these processes ([Ericsson, 2006](#)). When the reporting occurs in concert with the activity, it is referred to as concurrent verbal reporting. When the verbal reporting occurs directly after the completion of the activity, it is referred to as retrospective verbal reporting. Both techniques have been used in a variety of studies in other domains and their use alternately espoused. Verbal reports of cognitions and protocol analysis have been used to gather and analyze data on the performance of research participants in a wide variety of domains ([Ericsson and Simon, 1984, 1993](#)). Verbal reporting involves *thinking aloud* during or after attending to a task or problem to provide researchers with a representation of cognitions associated with a particular activity. The use of verbal reporting is the key element in the analysis of decision-making processes.

1. Background

Protocol analysis is a research methodology that encompasses the elicitation of verbal reports and their subsequent coding in order to yield data regarding cognitions ([Ericsson and Simon, 1993](#)). This method was initially introduced by [Ericsson and Simon \(1984\)](#) and later

refined in their 1993 edition. The basic assumption of protocol analysis is the notion that a participant's behaviors "can be viewed as a search through a problem space, accumulating knowledge (not always correct) about the problem and the situation as he goes" ([Ericsson and Simon, 1993](#), p. 263). This knowledge, according to [Ericsson and Simon](#), is apprehended by the participant, from short-term memory, in such a way that they are in effect communicating goals and sub-goals that are driving the activity in which they are engaging ([Ericsson and Simon](#)).

[Ericsson and Simon](#) have consistently advocated the simultaneous use of concurrent and retrospective verbal reports as complementary forms of data ([Ericsson and Simon, 1984, 1993](#)). However, [Ericsson's \(2006\)](#) research identified an interesting difference between the two techniques, especially when one considers the content of the reports. While concurrent reports have been shown to be consistently more complete representations of cognitions, since they are elicited during active exposure to the research context, retrospective reports are comparable to a degree with the caveat that they must be taken under the correct conditions. The primary factor that influences the completeness of retrospective reports is the interval of time that has passed since the conclusion of the activity comprising the particular experiment. [Ericsson](#) demonstrated that very short trials, measuring seconds, are likely to result in a retrospective report that is nearly identical to the concurrent report, whereas reports that encompass a longer task, or one that involves a delay prior to the retrospective verbal report being taken are less likely to be complete.

Other research applications of verbal reporting and protocol analysis that involve the collection of both concurrent and retrospective reports have also revealed important differences in the two methods. [Camps' \(2003\)](#) study of a second language task found that both verbal report methods he obtained were equivalent to a degree, but the retrospective reports offered additional data that was not present in the concurrent reports. [Ryan and Haslegrave \(2007a,b\)](#) performed an analysis of a manual-handling task using both methods and determined that the concurrent verbal report was most effective in collecting data on sequences of largely task related thoughts, and similar to the findings of [Camps and Ericson](#), retrospective reports offered additional data. [Guan et al.'s \(2006\)](#) study obtained retrospective reports of participants' use of eye movement tracking to document the sequences of objects they focused on, found a very high degree of correlation between their retrospective reports and the sequence of objects upon which the participants had focused.

Verbal reporting and protocol analysis have also been applied to studies in nursing, with differing approaches to the method by various researchers. [Greenwood et al. \(2000\)](#) employed a traditional approach to obtaining verbal report data in their study of neonatal nurses' clinical reasoning and effectively combined concurrent and retrospective report data to evaluate theory practice discrepancies among participants. Other researchers have departed from this approach. [Aitken \(2000\)](#) and [Twycross and Powls \(2006\)](#), for example, used concurrent verbal

Download English Version:

<https://daneshyari.com/en/article/1077046>

Download Persian Version:

<https://daneshyari.com/article/1077046>

[Daneshyari.com](https://daneshyari.com)