Nursing Minimum Data Sets and

Gadamer's Hermeneutic Philosophy of Language

Introduction

Many definitions of the specialty of nursing informatics have focused on application of technology and collection, processing, and management of data (Staggers and Thompson, 2002). More recently, there has been an increased focus on the meanings and uniformity of labels for the data elements that are being collected. This focus has led to the development of Nursing Minimum Data Sets (NMDS) in the United States and several other countries (Werley and Lang, 1988; Goossen, et al., 1998) around the world, and most recently, the conception of an international Nursing Minimum Data Set (iNMDS) (C. Delaney, personal communication, March 19, 2003).

Nursing Informatics has been recognized as a specialty within nursing for over two decades (1982-2002). During this time, the specialty was defined as a blend of nursing science, information science, and computer science. Later in the time period, cognitive science was added to the mix (Staggers and Thompson, 2002). Kikuchi pointed out in 1992 that nursing scholars had focused much of their effort for the two decades immediately prior to her publication (1972-1992) to the development of the science of nursing, with empirical studies. However, it is Kikuchi's position that science cannot answer all of nursing's questions; some of these questions are philosophic in nature rather than scientific.

A variation on Kikuchi's (1992) position is found in the field of artificial intelligence (Mallery, Hurwitz & Duffy, 1986). These researchers from Massachusetts Institute of Technology reviewed the potential application of hermeneutics to the field of artificial intelligence. Prior to that time, the field had been primarily influenced by a functionalist cognitive science paradigm. Although hermeneutics provides a source of

some doubt about whether the creation of artificial intelligence systems is feasible, Mallery, Hurwitz & Duffy point out that the philosophy can be applied to help "illuminate" issues like the nature of meaning.

As the development of the specialty of nursing informatics and the construction of technological systems and data sets to support this specialty move forward, it is becoming clear that the sciences cannot answer all of the questions that are arising, especially those about the meaning of data element labels (Goossen, et al., 1998). It seems that the time may be right to step back and examine the meanings of these labels to nurses from a philosophic point of view. This paper will examine the philosophic view of Hans-Georg Gadamer, a 20th century hermeneuticist; the development of national and international NMDSs; and how Gadamer's philosophy might help inform the work of developing these data sets.

Gadamer's Hermeneutic Philosophy

Hans-Georg Gadamer was a German philosopher who lived through the entire 20th century (1900-2002). He was a student of Heidegger during the 1920's, as he was completing his studies. His own work centered on the concept of understanding (Pascoe, 1996). In his later years, Gadamer wrote on language and linguisticality and the role that language plays in understanding (Schmidt, 2000). It is this later work around which this paper will be focused.

Gadamer's examination of language is rooted in the early Greek philosophers Aristotle and Plato. In very early discussions of language, it was viewed as something of a "sign" system, a tool for identifying objects. However, Gadamer relates that Plato was

one of the first to identify that there is something more to language than merely a way of labeling objects (Gadamer, 1989).

According to Palmer (1969, cited in Pascoe, 1996), a student of Gadamer, Gadamer's view of understanding is that it is always an historical, dialectic, and linguistic event. One essential concept of understanding is that of *horizon*. According to Gadamer, horizon is the "range of vision that includes everything that can be seen from a particular vantage point" (1989, p. 302). A person who has a horizon is one who is not limited to what is nearby, and just as importantly, knows the relative significance of everything within this horizon.

In order for an individual to have the ability to determine the relative significance of events or things within his horizon, a certain amount of *prejudice* is necessary. Prejudice, in this case, does not have the negative connotation that is common in the United States today; rather it is more a set of preconceived notions (Byrne, 1998). Although Gadamer himself does not use this term, some have labeled these preconceived notions "pre-understanding" (Pascoe, 1996).

Gadamer (1989) goes on to explain that, in the development of language, there is a formation of concepts that takes place. The concepts that a word represents are enriched by perceptions and experiences, so that the word may come to mean much more to individuals than the simple definition of the word. This, Gadamer tells us, is a result of individuals following their widening experiences and applying those experiences to the use of language. This illustrates the value of prejudice to the process of understanding.

Prejudices also contribute to the so-called “hermeneutic circle”, the notion that understanding of something requires an understanding or definition of that thing (Mallery, Hurwitz & Duffy, 1986).

The concept of horizon as defined by Gadamer (1989) is not intended to be a steady state. Rather, the individual’s present horizon is continually in the process of being formed. This processing occurs as prejudices are being constantly tested. According to Gadamer, this testing includes “encountering the past and understanding the tradition from which we come” (p. 306). The result of this process is known as a *fusion of horizons,* and it is essential to achieving understanding. It is important to note that the result of this fusion is not a single fixed horizon, but rather a continuous process of fusion and recombination of horizons. The fused horizon is a result of the tension that results from the encounter between the historical horizon and the present one. The hermeneutic task, according to Gadamer, is to consciously bring out this tension rather than to attempt to assimilate it into one horizon. Open and participatory dialogue is essential to managing this tension in such a way as to achieve understanding.

The Nursing Minimum Data Set

Efforts to identify a Nursing Minimum Data Set began in the 1980’s in the United States with the work of Werley and Lang (1988). Werley (1996) identifies the first attempt to standardize the collection of nursing data as the Nursing Minimum Data Set (NMDS) developed in the United States. Its intent is to include specific items of information used by a majority of nurses on a regular basis across care settings. This data set is intended to address core data needed to support decision making in clinical nursing (Werley and Lang, 1988).

While these efforts were taking place in the United States, nursing leaders in a number of other countries were (and are) beginning the development of data sets in their own countries. There are currently at least 12 countries in various stages of developing and utilizing NMDSs. These 12 countries are to be included in a survey sponsored by the International Medical Informatics Association Nursing Informatics Special Interest Group (IMIA NI-SIG) in the spring of 2003 (C. Delaney, personal communication, March 19, 2003).

The survey is a compilation of information from twelve datasets. The countries whose datasets are a part of the survey include: the United States, the Netherlands, Belgium/Finland, WHO-Euro, Canada, Australia, Iceland, Norway/Sweden, Denmark, the United Kingdom, Switzerland, and Thailand. There are a total of 204 individual elements; no one country includes all of these elements in their individual NMDS. The range of the number of elements is from zero to 59; no one element is identified by each of the 12 countries. If, as Werley (1996) suggests, the purpose of a data set is to provide information to support decision-making and research in nursing, clarity of language is essential.

The variations in element labels and the definitions for those elements pose a challenge to the development and effective use of an iNMDS. Kritek (1988) points out that generating a NMDS consists of making a set of language decisions. These decisions involve coming to consensus about the labels or names that describe the “things” one wishes to focus on, learn about, define, and count.

Kritek (1988) goes on to outline guidelines to be used in the development of a NMDS. These guidelines include:

- Use of existing language – Language that is used by the widest possible group of practicing nurses, so as to increase universality;
- Uniformity - Including careful definition of data items, in order to facilitate interdisciplinary collaboration; and
- Parsimony – Selection of the fewest possible number of items so as to decrease the creation of unwieldy data sets.

Kritek's (1988) call for uniformity is echoed by de Keizer and Abu-Hanna (2000), who discuss the need for a uniform representation to evaluate both existing and newly developed terminological systems. de Kiezer and Abu-Hanna also point out that uniformity enhances communication between disciplines such as domain experts and engineers; while the foremost goal of developing NMDSs is to enhance communication between nurses, it is to the benefit of the nursing profession to be able to communicate effectively with members of other disciplines as well.

Of Kritek's (1988) three criteria, the call for uniformity aligns with Gadamer's description of understanding in language.

A Gadamerian Examination of Nursing Minimum Data Sets

Nursing Minimum Data Sets have been primarily examined using information and computer sciences, which tend to examine issues from an empiric view. The emphasis on data collection and analysis that are inherent in the construction and utilization of data sets provides a powerful impetus for the empiric approach.

However, as Kikuchi (1992) and Carper (1975) suggest, there are other ways of examining questions in nursing. Kikuchi categorizes the question "what is the nature of nursing" as a philosophic one, rather than a scientific one. While Carper points out that

empirical knowledge is an important pattern of nursing knowledge, she assigns equal importance to the aesthetic and personal patterns of knowledge in nursing, which are not as concretely defined as empirics. Whall (1989) concluded that Carper's personal, ethical and aesthetic ways of knowing have an influence on nursing theory and practice, and called for the inclusion of philosophic examinations of nursing practice in conjunction with positivistic ones. This is a worthwhile goal for the specialty of nursing informatics, because there are concerns about the meaning of terms (Clark, Craft-Rosenberg, and Delaney, 2000).

Gadamer's views of hermeneutics and of language can provide a framework for examination of the development and utilization of NMDSs. If, as Werley (1988) suggests, the purpose of the NMDS is to collect, retrieve, and manipulate data about nursing care and administration in ways that advance nursing practice and the profession, the language and terms that are used to label this data must reflect an understanding of nursing data elements that capture the aesthetic, personal, and ethical knowledge that nurses apply in their care of patients.

A goal for the development of an NMDS should be Gadamer's expression of understanding in language (1985). According to Gadamer, language says that partners strike an understanding with one another. As noted earlier, the concept of horizon is essential to this understanding. Each of the entities involved in the discussion, whether individuals, nursing specialty groups, or countries, must first come to an understanding of their individual horizons and the relationships between everything within their horizon. The 2003 IMIA NI-SIG survey is one method being used to accomplish this task.

An important first step to this recognition of horizon is the recognition of prejudices that exist. Again, prejudice is not meant in a negative way; it is simply an acknowledgement of the experiences and current state of understanding of nursing on the part of these individuals or groups. Only then can the work toward a fusion of horizons commence. As Gadamer points out, open and participatory dialogue will be necessary to accomplish this task.

The data set itself can be seen as a result of the fusion of horizons for individuals as well as groups in nursing. As the data set will need to change to meet the continuous change so common in nursing practice settings today, it will of necessity not become a static assimilation of two or more individual groups' horizons, but a dynamic tool to assist the nursing profession in collecting, analyzing, and reporting data about the practice and science of nursing.

Conclusion

The development of an international Nursing Minimum Data Set provides a much needed next step in the development of nursing informatics as a specialty in nursing. It also has implications for other specialties and the nursing profession as a whole. The potential for continued development of nursing's knowledge base is exciting. However, it is incumbent upon the developers to capture consistent data with uniform labels for nursing activities and outcomes. In addition, the capture of information about the aesthetic activities of nursing is essential.

Gadamer warns us that the computer will "control our written language and will certainly set narrow boundaries to the wealth of words used for communicating" (1985, p. 15). This is a point that is well taken for nursing informaticists.

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