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Information literacy as a facilitator of ethical practice in the professions

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Abstract

To be information literate allows professionals to be aware of and able to locate, correctly interpret and apply research evidence, professional guidelines and other key sources in a full and complete manner, in a way that promises to achieve the best outcome for their patient or client. Consequently, as suggested by early findings of a phenomenographic investigation into information literacy in nursing, to be information literate is to be ethical, not only in the correct use of information, but as part of the endeavour to achieve professional competence, and beyond that, the best practice possible. This would imply that the acquisition of information literacy has an ethical significance and value. Does information literacy education emphasise this? The literature suggests not. Could it, however, be the means of driving forward information literacy education for key professions?

Keywords

information literacy; ethics; health care; nursing; phenomenography; evidence-based practice

1. Introduction

What is a professional? Evetts (2006) defines professionals as people who work in knowledge-based service occupations. Although some knowledge is obtained through experience and training, much of it has to be acquired in the form of research evidence, guidelines, legal precedent and other information sources. This would suggest that information literacy (IL) is fundamental to professional activity, and becoming information literate should be central to professional education. For many professionals being information literate contributes to facilitating crucial decisions based on information which is accurate and comprehensive enough to have the best chance of producing safe, ameliorative or even transformative outcomes. It is the suggestion of this paper that IL is an essential tool in the ethical practice of those professions in which such outcomes are likely to have a profound effect on the lives of others.

Many professions, and those who work in them, have great power over people's lives. They have the ability to alter the medical, social or legal parameters of those lives, even to influence whether a life continues. And they have to deal with the ethical dimensions of the responsibilities that come with this power. A nurse, lawyer, midwife or social worker can facilitate great improvements in the quality of a life, but may also damage it through faulty, inappropriate or out of date practice. This is acknowledged in relevant codes of professional conduct (NMC 2010; GSCC 2010). Such codes also make practitioners aware of their responsibility to practice ethically, not only in the sense of being competent and so avoiding malpractice, but by fulfilling the obligation to do the best for the patient or client at all times. This involves 'doing all that could have been done'; following what has been determined – perhaps by research – to be effective or the most effective procedures and practices. Failure to do this may involve not doing the best to make oneself aware of all of the salient facts, the key documents or research evidence, or failing to develop the skills and knowledge necessary to make use of that information; in other words, a failure to be information literate.

Although there is increasing acknowledgment of the value of IL to professionals, even those that acknowledge that they are 'evidence-based' often neglect the importance of training of students in these skills (Glasper 2011) so that their students aren't developing them further after their initial undergraduate training (Howe 2012). The literature in IL, as has often been remarked (Aharony 2010), is still primarily published by librarians for librarians.

A literature search done in LISA, LISTA and databases such as Academic Search Elite, CINAHL, Medline, Social Work Abstracts, Social Care Online, Business Source Premier and Lexis showed that although IL was often discussed in the context of ethical use of information, and information professionals were aware of the significance of evidence-based practice (e.g. Evidence Based Library and Information Practice (EBLIP) conferences), this feature of the role of IL is not widely discussed. In what appears to be the only paper to focus on IL and ethical practice in the professions, Brody (2008) coined the concept 'information naïveté': the unfounded belief that one's information skills are up to the job in hand, and therefore one is operating with full 'knowledge'. The situations which arise from information naïveté in those professionals whose actions have significant consequences for others are ethical, and the core ethical issue, as Brody states, is located in individuals taking action based on information accumulated and dispensed by the 'information naïve'. Although most information naïveté has trivial consequences, in some contexts it can be fatal (Brody 2008, p.1127).

An improvement in IL, Brody claims, could 'perhaps' solve or mitigate the problem. Naïveté suggests a lack of awareness of inadequacy. IL's ability to develop awareness as expressed in the Society of College, National and University Libraries definition (SCONUL 2011) would imply that naïveté would be addressed, but what of those who already believe they are information literate? The key ethical activities, of listening to peer advice and monitoring the efficacy of one's actions, are required.

Despite the paucity of discussion of these issues in the literature, and the lack of research into the role it has in professional activity, it can still be reasoned that IL is a key component of ethical practice in the professions such as those mentioned above. Perhaps we could go as far as to say it is unethical to practise without information literacy skills? This paper will briefly discuss the details and possible significance of this idea. The discussion will be informed by preliminary data from a doctoral research study currently being undertaken by the author into IL in the context of evidence-based practice in nursing. These preliminary findings are from a pilot study involving interviews with three very experienced nurse tutors, supplemented by a further 10 nurses of widely varying working environments and specialisms, approached via NHS trusts and through university contacts. The final study will involve the responses of 40 participants in total.

2. A research study into information literacy in nursing

Nursing is an area where both the university and NHS library sectors do a large amount of work in supporting students and professionals in developing their IL skills; however it is not always clear that interventions can be proven to be effective (Brettell 2007; 2003). Papers describing IL interventions for nurses and nursing students often describe how IL appears to manifest itself, such as an ability to do a search on the CINAHL database or critique a research paper, but say little about how nurses actually understand the phenomenon in practice. Investigations into whether IL is 'achieved' tend only to consist of the recording of nurses' self-confidence and feelings of competence in terms of library-related activities. However the participants themselves are often unsure as to the significance of that 'competence'. This research study into IL in nursing is an attempt to see IL from the perspective of how professionals experience it, and thereby actually understand it in practical terms, while actually doing their job. It is hoped that using the understanding of this experience as a basis for educational interventions is a sound way of making sure those interventions are effective. And in addition, one is more likely to obtain support from academics and senior nurses who may yet need persuading of the significance of IL.

During interviews undertaken for the study, participants emphasised that not to make the greatest possible efforts to locate, critique and apply the maximum knowledge of the patient's condition and the methods of care that were the most effective, was to be ethically irresponsible. If you didn't have those skills, you should be obliged to obtain them. This was particularly emphasised in critical care environments in which operating without research evidence was to risk a disastrous outcome.

2.1 Methodology

The study is using phenomenography as its main methodology. Phenomenography has previously been used to investigate IL in the seminal work of Bruce (1997) and more recently by such researchers as Andretta (2010) and Osborne (2011).

Phenomenography attempts to:

- describe the ways a phenomenon is experienced (working under the assumption that the number of ways it can be experienced is not infinite),
- find a structure of relationship between the descriptions to show the experience of the phenomenon as a whole.

This should theoretically allow a full picture of how IL is actually experienced and understood by nurses to be mapped out; a 'map' which can be used to develop research-based IL education interventions, which are more likely to be effective, and therefore perceived by nurses themselves as worthwhile.

The 'map' of IL experiences holds out the possibility of information professionals being able to demonstrate increases in IL experiences after a particular IL educational intervention through 'before and after' phenomenographic interviews. If the additional IL experiences can be mapped to the development of certain skills and knowledge domains, then IL education could be developed in an 'evidence-based' way by re-focussing on what proves to be the 'key' knowledge and skills.

An investigation of these ideas will form the basis of a second part of my study.

2.1.1 What is phenomenography?

In his introduction to a collection of articles on phenomenography, Entwistle (1997, p.127) describes a key insight his students often arrive at when struggling to define a concept such as 'antidote':

'We don't store definitions [of a concept] in memory, but rather ... the meaning resides within the interconnectedness of remembered instances, and has to be reconstituted.'

'Remembered instances' are defined as instances in which the concept operates in the real world of one's own experiences as a 'phenomenon': a perceived concept.

His students found it easier to give him examples of when they had come across 'antidote' as a phenomenon – when they had sought treatment for a snakebite, for example. He goes on to define phenomenography as a methodology which 'seeks to explore these different conceptions ['conceptions, that is meanings and understandings of phenomena' (Svensson 1997, p.163)], or structures of awareness [one can think of the structure of awareness as a relationship between the person and the object of consciousness (Booth 1997, p.141)], which people constitute from the world of their experience' (Entwistle 1997, p127). Saljo's term 'ways of experiencing' (1997) may be preferred to 'conceptions'. He derived this from Marton's simpler description of phenomenography as an approach that 'aims to reveal the qualitative different ways in which something is experienced' (Marton 1994, p.174).

Phenomenography is a methodology in which participants are encouraged to explore just such 'remembered instances' in which a concept has been experienced (and is now a 'phenomenon' – a

perceived concept). This is usually done through open-ended interviews. The researcher then analyses the descriptions of those instances to provide a picture of the concept - such as 'information literacy' in my own study - as a complex and variably experienced phenomenon rather than an abstraction. In other words, attempts to unearth the concept's operative, practical meanings for a group of individuals experiencing it in various contexts and environments.

Phenomenography is interested in the range of meanings the concept has for the group in terms of the variations in the ways a phenomenon is experienced. That variation is seen as being limited, definable in terms of generalised 'categories of description', and with its own internal structure which is logical and often hierarchical. This yields the possibility of a structured description of the ways the underlying concept is understood by the group. Phenomenography is therefore:

'...the empirical study of the limited number of qualitatively different ways in which various phenomena in, and aspects of, the world around us are experienced, conceptualised, understood, perceived and apprehended.' (Marton 1994)

The key emphasis is that categorisation is based on the participant's own interpretation of their experience. 'Phenomenographers do not make statements about the world as such, but about people's conceptions of the world.' (Marton 1988, p.145)

How is it possible to arrive at a description of the ways the underlying concept is understood from the complex experiences of many different individuals? It is a fundamental belief of phenomenography that the variations in experience of any phenomenon can be meaningfully categorised, and that the number of 'categories' are limited and determinable (Marton 1988). The belief in the limited nature of variation is a point of controversy. However, it draws on evidence from a range of phenomenographic studies, beginning with early work by Marton and colleagues (Marton 1988).

Categorisation of participants' experiences must lead on to a process in which 'different ways of understanding a phenomenon are logically and hierarchically interrelated [by the researcher] to establish a typology' (Ashworth and Lucas 1998, p.415), and so to the development of a collective, definitive and comprehensive picture of how any phenomenon is experienced. Åkerlind (2005a, p.323) emphasises that 'The phenomenographic focus is on collective rather than individual experience ... Phenomenographic research aims to explore the range of meanings within a sample group, as a group, not the range of meanings for each individual within the group.'

2.2 The pilot study

2.2.1 Interviews

In a pilot study, 3 participants were asked in one-to-one interviews to describe their information seeking activities, as they set about analysing a clinical problem or issue and determining their information needs. Also, to give a deeper context, how they relate their experience of being information literate with their roles as clinical professionals and evidence-based practitioners and their understanding of what evidence-based practice was and was for.

Questions used as a basic structure for the interviews are listed below. The questions were designed to promote reflection on experience rather than opinion. Åkerlind's (2005b) categorisation of interview questions (contextual; open; exemplifying; follow-up) was used as a guide.

Contextual

- First, to get us going, can you tell me what your current job is?

Open

- What does evidence-based practice mean to you?
- What part does research evidence play in good practice?
- What is your picture of a nurse who uses information effectively?

Exemplifying

- Can you give examples of ways you use information to inform your practice?
- How do you use information in your day to day work?
- Tell the story of an occasion when you used information effectively.

Follow up

- What are your first thoughts?
- How do you get from a clinical problem to an information need?
- Do you begin with a plan? If not, why? What is your usual sequence of thoughts and activities?
- What processes and activities do you use?
- Describe your thought patterns.
- Describe the specialist knowledge you use.
- How do you appraise what you've done so far?

(Some questions based on Bruce 1997, p.95.)

Questions were flexibly ordered in a way that helped maintain a relaxed, reflective atmosphere.

Phenomenographic interviews are semi-structured to allow participants to reflect unhindered on their experiences. The prejudices, beliefs and presumptions of the interviewer must not be imposed on the interview so that the direction and content of the responses are those which reflect the world of the participant. It is essential that the participants discuss what they regard as significant experiences and the significance of those experiences. The interviewer quickly learned not to 'lead' and not to assume that what the participant was describing was not 'relevant'. In the analysis of the transcripts such descriptions often yielded the most interesting data.

2.2.2 Data analysis

Data analysis involves generating from the interview transcripts the discrete ways of experiencing the phenomenon in the form of 'Categories of Description'. This is done by picking out related statements, both within the transcript but most importantly across the transcripts, as the Categories describe a 'representative' experience of the whole group and not that of one individual (Åkerlind 2005b). Two methods of data analysis were attempted and compared for ability to deal with what turned out to be complex experiences; only one (Dall'Alba 1994; Bowden 1994; Prosser 1994) proved to be effective. This method allowed the complexity of the relationship between evidence-

based practice and nursing and IL to emerge fully by treating the whole transcript as an entity in the analysis process. The alternative, breaking transcripts immediately into short statements was unable to generate meaningful outcomes. Full details are given in Forster (2012) and Forster (2013).

3. Discussion

3.1 Results from the pilot study (supported by early findings from the main study)

A number of draft Categories of Description could be formulated; these were presented to the participants and other nurses who indicated broad acceptance of the likely validity of the findings.

Two of the Categories emerged from this preliminary analysis with an 'ethical' focus on competence and best practice. Both seem to be strongly confirmed in the as-yet-incomplete main study.

The article includes quotations. However because Categories of Description evolved over the whole transcript as well as across transcripts, it is difficult to give brief quotations which 'match' the categories.

Category 5:

Information literacy is experienced in the building up of professional competence through the location and application of key scientific or psycho-socio-cultural background knowledge.

'We can't, ethically, treat a patient without knowing why we're treating them – side effects of treatment, medication...contraindications...' Participant 3

'I might [need to] investigate if there's a cultural angle ...is there something that we don't know about' Participant 1

'If I want to be clinically effective I should be looking for information ... and [so] be sound in terms of knowledge and skills' Participant 2

'Patient safety has to be effected. For that everybody needs to have a certain amount of knowledge, of skills – that's competencies basically. And competencies are evidence-based' Participant 4

Research evidence is key to **competent** practice. But knowledge is broader than this and involves information about the patient's cultural background and social circumstances as well as their long term health issues. The patient is not a scientific experiment but a human being. The experience of IL in this context involved the ability to draw information from many sources: databases, health records, colleagues, patient's family, and the patient themselves. This is then critiqued, synthesised and communicated to colleagues as an in-depth picture of the patient and their treatment, including the reasons for the choices made. The failure to do so could have consequences ranging from the fatal to an undermining of the patient's comfort and sense of personal dignity. But again the emphasis is on the nurse's personal responsibility to make sure that he or she has these skills.

Category 2:

Information literacy is experienced in an ethical context, in the successful accumulation of evidence to determine what is the most appropriate care

'....through necessity I have to follow evidence-based practice. It's an ethical issue.' Participant 3

'most patients are vulnerable, are in a compromised situation – this is why you need ethics, accountability...and evidence-based practice to show that they are safeguarded.' Participant 3

'Patient safety is fundamental – everything that we do to them can be detrimental.... we do have to keep up to date because everything we do [should be] based on sound evidence' Participant 1

'if you say it's evidence-based you have the moral high-ground. It's not just me – we have to do it' Participant 5

Participants very frequently either used the terms 'ethical' or 'ethically', or strongly implied an ethical context, in relation to the necessity of finding and applying the research evidence to determine **best practice**; the most appropriate care. Evidence-based practice was seen by most of the participants as being an ethical responsibility. The participants were frequently aware that evidence-based best practice requires IL (however they label it) and that IL is something a nurse must achieve if they didn't do so as part of academic study. Details of searching and critiquing which could be mapped to the Seven Pillars were mentioned as essential for evidence-based practice to be effective.

According to the Nursing and Midwifery Council's Code of Professional Conduct, nurses are obliged to 'Provide a high standard of practice and care at all times" (NMC 2010). To do this they must:

'Use the best available evidence ...

... deliver care based on the best available evidence or best practice ...

... ensure any advice you give is evidence based if you are suggesting healthcare products or services' (NMC 2010)

Participants, especially those in senior positions, seem to be clear that IL cannot be written off as something needed for study but nothing to do with real practice – an attitude still to be found in inexperienced nurses. Nor is it something a nurse, especially one of many years' standing, who did their training in the 'pre-IT age', can be excused from developing as something difficult and not sufficiently important for the effort required. Nurses are ethically obliged to be, as several research participants have stated, 'information, and especially research-based information, aware'.

In summary, then, the two relevant Categories of Description described above can be interpreted as indicating that IL was seen by the participating nurses as an essential component of being an ethically responsible practitioner.

More specifically, this appeared to consist of:

1. The ethical requirement to achieve **competence** (Category 5)
2. The ethical requirement to seek out and implement **best practice** (Category 2)

Can this be given a broader interpretation, and hence a wider significance beyond nursing? This will be briefly discussed in the following sections.

3.2 Professional competence

What is competence?

'Competence is the state of having the knowledge, judgement, skills, energy, experience and motivation required to respond adequately to the demands of one's professional responsibilities.' (Roach 1992, p.61)

In this frequently quoted definition of what constitutes professional competence, knowledge is listed first, and there may be some claim for it as being the fundamental basis of competence. Judgement is impaired, skills may be unusable, and energy misplaced without sufficient and appropriate knowledge and the information that enriches and updates that knowledge.

A further definition of competence by Kitchener (2000) brings in the recognition of knowledge inadequacy:

'Being competent involves having the knowledge, skills and abilities to perform one's professional role, and the ability to recognize when one's knowledge....[is] inadequate and impaired.' (Kitchener 2000 p.156)

But professionals are also autonomous individuals who have responsibility to move on from recognition of a problem in their practice to actively doing something about it. Evetts's definition of the professional as someone who works in knowledge-based service occupations implies basic competence must involve the ability to be aware of a knowledge lack and be able to plan and execute an information search and identify locate and critique that information to create new knowledge. Not all 'knowledge' is based on information sources (Evetts 2006). However Eraut (1994) considered the factors on which learning in professional practice relies and found 'publications' to be one of the three key ones.

It could be argued that the failure to use information skills to maintain competence has an ethical significance for all professionals, not just those who would endanger the public by their incompetence. Undermining the work of colleagues and employers is a potential consequence in any profession; failure to provide value for money to clients, or to provide a service which they themselves rely on as correct and effective in the development of their own products and services may result in breach of trust or harm in one form or another. In my research into IL in nursing, the 'team approach' to information activities is something which emerged very strikingly. Groups within the nursing profession or groups which included other professionals often worked together to maintain effective care and treatment by a joint effort to search for and critique relevant research or research-based documentation. IL was seen as a way of effectively contributing to the team and the work of other professional groups.

3.3 Best practice

In many professions such as those in health and social care, evidence-based practice (EBP) has been accepted as a means of keeping practice at the highest level (Sackett et al.1997). It involves integrating research evidence into the information gathered about a patient in order to determine what is likely to be the best care or treatment:

'EBP describes a philosophy and process designed to forward effective use of professional judgment in integrating information regarding each client's unique characteristics, circumstances, preferences, actions, and external research findings' (Gambrell 2007, p.449).

EBP involves identifying, finding and applying research evidence; raw evidence or guidelines or other documents based on that evidence, as a means of discovering and implementing what has been proven to be safe, effective, but also the most effective practice. Essential knowledge is seen, not just in what has been accumulated over a career but what, objectively, the research indicates is the best way to act. These professions have bred a huge research effort which looks into the best methods of care, the best treatments, the effectiveness or otherwise of medications. Competence moves on from having the knowledge to do the job effectively, to a process of constantly improving practice based on new research evidence as it becomes available. Changing practice requires the ability to find and critique evidence and apply it to practice – creating a new way of working. EBP is seen as an ethical tool in the professions that deal with human health and welfare, not only to combat ill-informed practice but to combat harmful wider phenomena. For Gambrill (2010), it involves social workers, for example, being able to cut through the social forces preventing effective action towards the well-being of their clients:

‘Evidence-based practice was developed in part because of misleading claims in the professional literature. If propaganda is an integral part of our society, we cannot escape its influence. But we can become aware of it, encouraged by ethical obligations to avoid harming in the name of helping’ (Gambrill 2010, p.302)

In another paper discussing ethics, evidence-based practice and social workers, Gambrill sets out in tabular format the ‘Contributions of Evidence-Based Practice to Honoring Ethical Obligations’ and under ‘Help clients and avoid harm’ she places ‘Encourage use of and facilitate access to practice- and policy related research findings to maximize the likelihood of success and minimise the likelihood of harm’ (Gambrill 2007, p.456); under the ethical obligation to be competent is placed ‘Possess knowledge of and effectively transmit up-to-date research findings regarding vital practice and policy questions.’ (Gambrill 2007, p.457). ‘Use’, ‘facilitate access’ ‘possess knowledge of’ (i.e. identify, locate and critique) and ‘transmit’ are familiar terms from definitions of IL.

3.4 The role of information literacy

Is the information base from which the professional is operating complete, in the sense that critical analysis has been applied to all potentially relevant information sources? If not, so that the paradigm-shifting research study, the key legal document or statistical analysis is missing, it could mean inadequate treatment, advice or representation. IL involves not only understanding how to rectify this but also being able (through effective information gathering) to determine that there are information sources which have yet to be incorporated into the ‘information base’. The information literate person will then ‘gather, use, manage, synthesise and create information and data’ (SCONUL 2011) effectively to rectify this.

The skills to use information effectively may be a profound and fundamental part of a profession’s practice. Some professions consist almost entirely of the ability to make use of specialist information. IL, so often struggling to make itself acknowledged, has the potential to take centre stage in professions such as law. Smith and Presser (2005), in their article on providing IL training for student lawyers, state that a whole range of key information-based activities such as legal reasoning, legal writing, adherence to copyright law and avoidance of plagiarism, are essential to the effective modern lawyer - with the unstated implication that the inability to competently perform those activities results in failure to serve the needs of the client and of the law itself.

The SCONUL definition of IL yields up other aspects of IL which can be viewed in the context of ethical professional behaviour. The ethical management of information implies that not only must it be kept confidential and treated as the private and personal thing it may be, but it must be easily available to those who may need to access and apply it to avoid the information incompleteness already discussed. ‘Synthesis of information’ in Pillar 7 is the central activity of lawyers, of medical professionals, investors, academics.... Failure to do this effectively and create the legal brief, the treatment plan, the investment portfolio, the university course, is failure *tout court*.

As well as discussing the 'active' possession of the necessary information skills, the SCONUL definition is sensitive to the 'awareness' an individual has (or doesn't have) of the process of information gathering and use. IL involves a consciousness of processes (and therefore whether they are successful) and thus contains an ability to make an ethical judgement relating to whether the very best is being done for the patient or client - by obtaining and synthesising the necessary and correct information sources.

3.5. The need for further research

The absence of relevant research or widespread discussion of these issues suggests further work is needed to establish the ethical parameters of IL as it is experienced by practising professionals. Research which shows clearly the central role of IL in professional activity and the ethical issues which arise from the lack of those skills is called for. The successful use in the study described above of phenomenography to analyse and establish the significance of IL in an evidence-based profession such as nursing – and in addition providing a knowledge base for effective evidence-based educational interventions - would point to the feasibility of similar projects in evidence-based or information-rich professions such as law, midwifery and social work.

The evidence from such studies could support a campaign to prove IL's key role, get its significance established, and also be used to develop more effective IL education, with the worthwhile result of a more confident and competent professional. That IL's key role in professional education is not widely understood or accepted hardly needs stating. Research evidence into the effectiveness of library interventions into improving academic outcome is part of the countervailing strategy. However research which shows that IL is central to the activity of the professions that students will enter on graduating, that it is a central prop to ethical practice in those professions, is a further, and potentially major, part. It also follows that the teaching of IL in this context has an ethical value, something which information professionals can be proud of.

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