Cultivating an informatics culture within nursing education

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Nursing Informatics

- Has evolved as a field in nursing for over 30 years, yet few Nursing programs provide adequate informatics related learning activities within the curriculum

- Nursing education is often viewed as being behind the times because of this minimal or non inclusion

- In a 2003 CNIA study, *Educating Tomorrow's Nurses: Where's Nursing Informatics,* the critical importance of including NI in nursing education was addressed

- It was noted in this study that a culture for nursing informatics was noticably lacking in Canadian nursing schools

Recommendations

- The report (CNIA, 2003) included a recommendation that "the culture and expectations of schools of nursing embrace nursing informatics and appropriate use of information and communication technology in teaching and learning" (p. 30).

Further Recommendations

"Academic and clinical staff members, as well as nursing students, require a holistic understanding of nursing informatics and use of information and communication technology in education and health care. " (CNIA, 2003, p. 30)

A Limited Awareness

"While there is a general awareness of informatics in nursing, it is specifically related to the use of the Internet and other technologies such as databases for research and does not encompass a broad based understanding of the full scope of nursing informatics or its impact on nursing care" (CNIA, 2003, p. 22).

BSN Integrated Curriculum

- In 1994 an integrated curriculum for nursing informatics was developed for Kwantlen University College nursing students

- A learning activity was written for all courses in the program across the 4 years of the degree - included theory, practice, reflection and critical awareness components using a simple to complex approach – has been updated annually ever since

YEAR ONE

Semester One

- Electronic Literature Search
- Nursing Informatics as a Competency
- Observation: Nurse's Use of Computers
- Reverie Journaling (WordProcessing)

Semester Two

- World Wide Web Searches
- Email, Netiquette
- Personal Portfolio: (Spreadsheets)

YEAR TWO

Semester Three

- Use of Nursing Info Systems In Acute Care
- Discharge Planning Tool Design (Pamphlet, Booklet)
- Online Health Challenge Research

Semester Four

- Technology & Caring
- Health Information: Nursing Components, EHRs, Databases
- Confidentiality & Security
- Multimedia Teaching in Pathophysiology

YEAR THREE

Semester Five

- Nurse Expert Systems & Artificial Intelligence
- Client Education and Prevention
- Nurses and e-Health
- Bioethical Issues & Technology

Semester Six

- Health Promotion Tools
- Research Software
- Website Development
- Online Collaboration, Networks & COPs
- ICTs & Community Development

YEAR FOUR

Semester Seven

- Media as a Medium for Change
- Data Analysis Software
- Group Chats & IRC
- CHINS, Telenursing
- Digital Media Creation

Semester Eight

- Lifelong Learning & Competencies (Portfolio II)
- Nursing Informatics as a Specialization

Conceptual Development

- Concepts such as caring, empowerment, self-reflection and expression, computer literacy, confidentiality, bioethical decisions, networking, patient education, community development and cyberphobia represent some of the issues and actions explored.

BSN Secure Community

- A Community Intranet was also developed to support faculty access to program documents such as meeting minutes, workload choices, textbook ordering databases, making departmental choices, and other resources.

- Motivated by the need to support faculty access to documents but also to cultivate comfort using web based software and activities.

- Despite the existence of this Integrated Curriculum since 1994, and the BSN Community for two years, very little integration is actually practiced in the majority of courses, and very few faculty access the Community

- Common usage remains focused on email communication and some online library database and web site resource utilization

This is not an isolated incident:

Very few (if any) Canadian nursing schools offer nursing informatics learning activities that are consistently engaged in across the curriculum

A Modernist Lens….

- Would reflect faculty who are not in tune with the ICT and new media rich environments found in most of society

- Would lament that nursing is not adequately preparing nurses who can become part of the modern technology rich 21st century

A Critical Social Lens….

Contemporary Canadian nursing curricula is shaped using a caring, critical social, feminist, humanistic, postcolonial, and eco-aware, phenomenological approach to cultivate neophyte nurses who are empowered, engage in dialogue, reflection, narrative, and praxis, and who plan and provide care that is intrinsically client focused, health promoting, and salient to the individual client's health needs and situation

WISDOM OF THE GATE KEEPERS?

- Nursing faculty serve as keepers at the interface of educational infiltration and thus far, have managed to keep informatics at the periphery of curriculum content and processes.

- Blindly adopting informatics into the critical pedagogy and idealistic culture of nursing education can be seen as counterproductive to the intent and mandate of most nursing education programs.

Critical Pedagogy ….

- Giroux's (2004) treatise to consider the combination of cultural studies and critical pedagogy within higher education is relevant to this work, especially when exploring how nursing education culture, currently founded on critical pedagogy, dis/allows informatics infiltration.
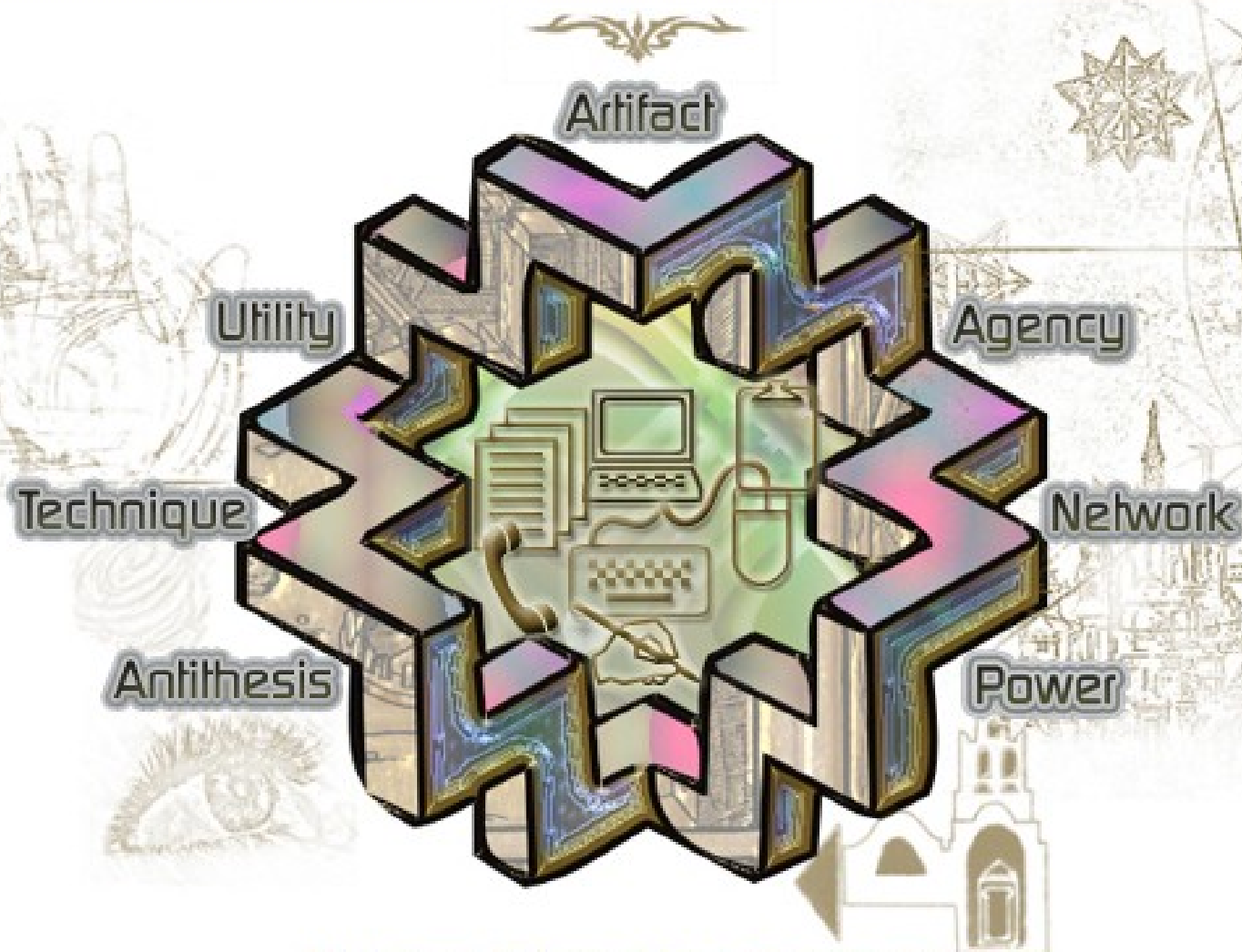
..and New Technologies….

As Giroux points out:

The scope and power of new informational technologies, multimedia, and visual culture warrant educators to become more reflective about engaging the production, reception, and situated use of new technologies, popular texts, and diverse forms of visual culture, including how they structure social relations, values, particular notions of community, the future, and varied definitions of the self and others (2004, p. 67).

- In line with faculty reflection on the implications, barriers, benefits, processes, and dangers of allowing nursing informatics in education, seven significant perspectives of informatics were identified from the literature: **Antithesis, Artifact, Utility, Technique, Agency, Networks, and Power**

- All seven of these perspectives present an unique lens to consider when analyzing nursing informatics within (or outside) the context of nursing education culture.

Nursing Informatics Perspectives

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An Antithesis perspective…

- refers to the notion that the use of computers and other information technologies in health care is a threat: in fact it is the antithesis or opposite of compassionate, caring and client-centered nursing practice and education
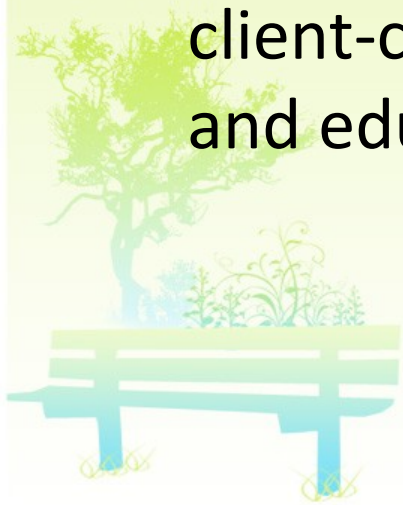
An Artifact perspective…

refers to the notion that technology of all kinds, including the contemporary inclusion of information technologies in nursing is an inherent, almost seamless cultural phenomenon, one that is long-standing and can be taken for granted as part of nursing evolution.

Nurse taking Xray 1941

Incubator 1903
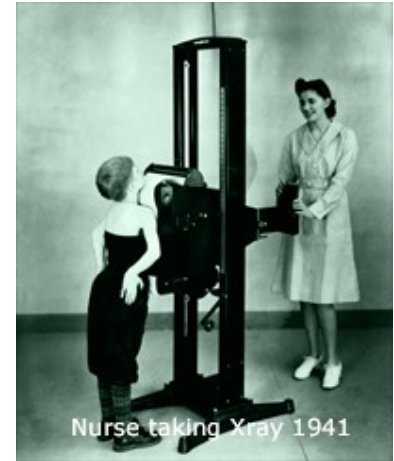
An Utility perspective…

- is reflected in literature that presents information technologies as simple, benign, and useful tools that nurses control and apply to their practice, research, studying, and management activities.
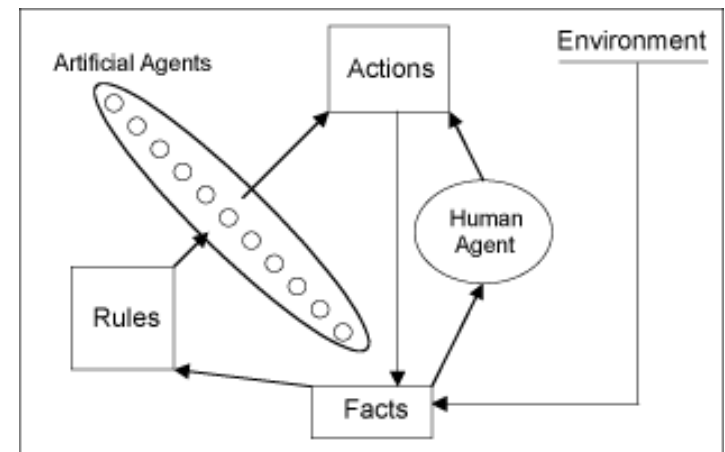
A Technique perspective…

Technique is another perspective that promotes the application of information technologies in nursing to boost productivity and efficiency, promote best practices and evidenced-based practice, and concretely record nursing education and practice activities electronically.

An Agency perspective …

- incorporates actor-network theory, technological agency in its' own right, and how nurses interact with ICTs in an interactive and intense, almost reciprocal way.

- Human – computer interactions occur within sociocultural and sociostructural contexts

- a notion that looks at the social role of technology within the workplace and other arenas of society

A Network perspective…

The perspective of Networks examines the collaborative application of information technologies as educators and students interact with others, such as colleagues, interdisciplinary team members, clients, and communities of practice and inquiry, sometimes on a global scale.
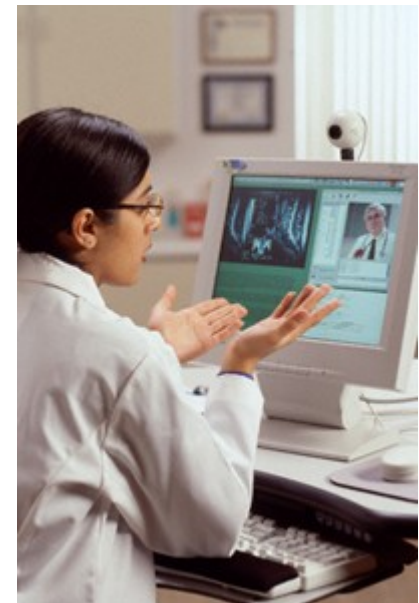
A Power perspective …

- This perspective has been investigated from a disciplinary perspective, including the consequences of prestige, influence, legitimacy, governmentality, and social access. The lens of power is important for nurse educators to critically examine the dynamics of disciplinary and individual power in the context of utilizing information technology within nursing education. A particular focus on the power that nurses exhibit in the context of using technologies within the health care system is important, as is a look at client and student power.
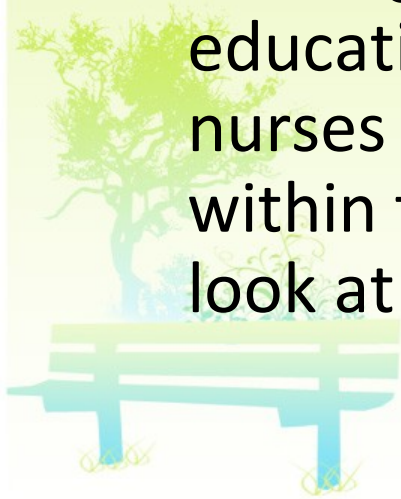
ACKNOWLEDGING THE WISDOM OF THE GATE KEEPERS

- The vision and mission of most nursing education programs go beyond preparing students for the workplace: the intent is to enculture students who can examine the flaws in the current bureaucratic modernist workplace and find fissures and cracks that encourage change and slow but sure transformation.

Protecting the Borders…

Nursing faculty do not protect the borders of the curricula in order to perpetuate a "professionalized, gated community" (Giroux, 2006, p. 64) or "ivory tower" cloistered milieu, but to actually preserve the critical socially-conscious culture that can support nursing students to develop the knowledge, discernment, inner strength, vision, and social critical skills to bring a genuine client-centred health care system into reality.

New Technologies …

- "higher education is one of the few places where scholars can be educated for life in a global democracy by becoming multi-literate in ways that not only allow them access to new information and technologies but also enable them to be border crossers capable of engaging, learning from, understanding, and being tolerant of and responsible to matters of inclusiveness, meaningful difference, and otherness" (Giroux, 2006, p. 74).

CORPORATE DISCOURSE

- However, most of the rhetoric that promotes nursing informatics integration into nursing education culture reflects a market-place preparatory, economic, commodification-based control paradigm, is clearly alien to the vision of nursing perpetuated in education.

- Hardly any of the nursing literature questions this modernist approach or presents an alternative to sheer infiltration of technology sans questioning or awareness (Health Canada, 2003).

IT Literacy …

"is a process enabling people to be in control and active in their lives instead of acted upon by social, political, and economical forces. IT literacy is therefore far more than learning the skills necessary to use hardware and software. It involves understanding the role IT plays in society, questioning the purposes for which IT is used, understanding how IT intervenes in our lives and relations with others, and being able to choose when and which tools are appropriate for a task or problem at hand. IT literacy therefore involves developing a critical consciousness which enables us to make informed choices about the way we use and respond to such technologies in our society"   (Jurema and O'Rourke, 1997,, pp. 129 – 130).

Capacitation is …

- A pedagogy of informatics that involves teacher engagement "in a process of 'capacitation" which opens spaces involving reflection, dialogue, and reinvention of actions leading to better educational practices.

- Capacitation is more than building capacity, It refers to an ongoing, active process where teachers work together and become empowered and energized through deep collaboration" (Jurema and O'Rourke,1997, p. 132).
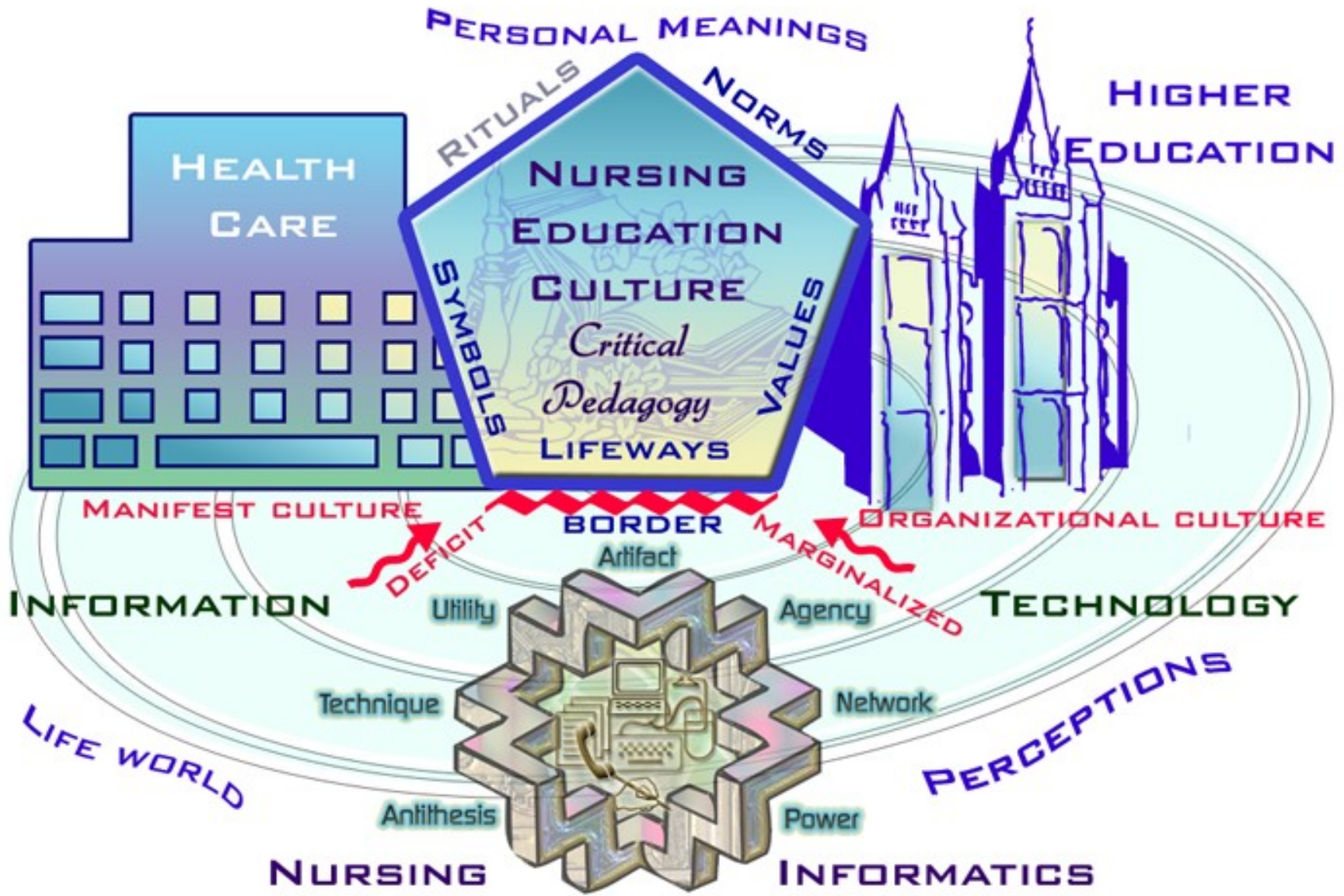
Finding a Cultural Ground

"In the broadest sense, critical pedagogy should offer students and others – outside of officially sanctioned scripts – the historically and contextually specific knowledge, skills, and tools they need to participate in, govern, and change, when necessary, those political and economic structures of power that shape their everyday lives. Needless to say, such tools are not pre-given but are the outcome of struggle, debate, dialogue, and engagement across a variety of public spheres" (Giroux, 2004, p. 69).

The Important Debates …

- The important debates, dialogues, and engagement have not yet occurred – at least not in nursing education

- This work will continue to promote such dialogue and engagement

- The work of the CNIA also actively embraces this need

PERSONAL MEANINGS

HEALTH CARE

HIGHER EDUCATION

RITUALS

NORMS

NURSING EDUCATION CULTURE

Critical Pedagogy

SYMBOLS

VALUES

LIFEWAYS

MANIFEST CULTURE

BORDER

ORGANIZATIONAL CULTURE

DEFICIT

MARGINALIZED

INFORMATION

TECHNOLOGY

Artifact

Utility

Agency

Technique

Network

PERCEPTIONS

LIFE WORLD

Antithesis

Power

NURSING

INFORMATICS

For More Information

- Kwantlen BSN Integrated Curriculum

  http://nursing-informatics.com/kwantlen/index.html

- A Revealing of Nursing Informatics…Exploring the Field
  http://www.nursing-informatics.com/revealing/NI_front.html

- Canadian Nursing Informatics Association

  http://cnia.ca

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