INFORMATION LITERACY PRACTICES OF RESEARCHERS IN WORKPLACE INFORMATION ECOCOLOGIES

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OUTLINE

• Information Behavior and Workplace Information
  • Studies of Information Behavior of Scholars
  • Workplace Information Literacy
  • Information Ecologies

• A Study of Information Behavior of Researchers
  • Objectives
  • Methodology – Concept Mapping
  • Barriers in research information infrastructures
  • Values of research work

• Workplace Information Ecologies

• Conclusions
PURPOSE

• Explore information literacy practices of researchers in scholarly workplaces

• Qualitative study of information behavior of researchers in Slovakia
  • Which values and barriers determine workplace information practices of researchers?

• Workplace information ecologies
INFORMATION BEHAVIOUR OF SCHOLARS

- Information behavior studies: scholars
  - A scientist in an interconnected set of system (Taylor)
  - Ellis´model (starting, chaining, browsing, differentiating, monitoring, extracting), theory of scientific collaboration (Olson, Olson)

- New patterns: online communication, electronic publishing

- Information practices – contextual factors – workplaces, digital tools, barriers
INFORMATION BEHAVIOUR OF SCHOLARS
WORKPLACE INFORMATION LITERACY

- Workplaces:
  - places where people engage in work and information use

- Workplace information literacy:
  - making sense, understanding complex information environments
  - Bruce (socio-cultural practices, informed learning)
  - Lloyd (information landscapes), Sommerville (cultivation, behavioral, socio-cultural, relational approaches), Abram (social networks, skills), professional information literacy (Abdi, Bruce)

- Transliteracy: information use, learning, collaboration, communication, interactions, tasks, tools, policies, decision-making
INFORMATION ECOLOGIES

• Dynamic interactions of people, practices, values and technologies
• Making information meaningful, communities of practice
• Adaptation, participation, co-evolution, values
  • Eliminating information overload and risks of information use
• Information ecologies in scholarly workplaces
  • dynamic places of multiple factors – digital resources, social networking, digital publishing, remote collaboration, research and methodological creativity
A QUALITATIVE STUDY OF INFORMATION BEHAVIOR OF RESEARCHERS

- Research Design and Methodology
  - What is the influence of workplace information infrastructure on information practices of researchers?
  - Which barriers are most significant?
  - Which values emerge in developing information ecologies?

- Semi-structured interviews, 19 elite scholars
  - research process, information process, information infrastructure, factors of influence
  - Content analyses
  - Concept mapping
  - Common patterns
  - Differences in perceptions of knowledge infrastructure in disciplines
INFORMATION BEHAVIOUR OF SCHOLARS
<table>
<thead>
<tr>
<th>Group</th>
<th>Discipline [17]</th>
<th>Research subjects</th>
<th>Gender</th>
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</table>
| Humanities (8)         | Archaeology; Archival Studies; Comparative Religionistics; Literary Studies; Sinology; Slovak Language – Linguistics; Systematic Philosophy (2) [7] | Aeneolith, Bronze Age; Written Culture History in Slovakia; Maya Culture; Slovak Literature; History of China; Slavic languages, Dialectology; Logics; Pragmaticism | F (0)  
                          |                                                                                  | M (8)                                      |        |
| Social Sciences (4)    | Ethnology; Economics, Statistics; Politology; Sociology [4]                     | Folk traditions, social anthropology; Megatrends, prognostics; Comparative politology, European integration; Social policy | F (4)  
                          |                                                                                  | M (0)                                      |        |
| Sciences (5)           | Astronomy, Astrophysics; Macromolecular Chemistry; Molecular Biology; Neurophysiology; Nuclear Physics [5] | Observational astronomy; Polymers; Genetics; Autism; Space Sciences                | F (1)  
                          |                                                                                  | M (4)                                      |        |
| Technical Sciences (2) | Computer Science (2) [1]                                                         | Information Systems; Software engineering                                           | F (1)  
                          |                                                                                  | M (1)                                      |        |
CONCEPT MAPPING

• Representation of content analyses of data acquired by interviews
  • Qualitative analysis of data
  • Reveal contexts (Kinchin et al.)
  • Learning experience, discussions (Whitworth et al.)

• Our approach:
  • concept maps – derived key concepts, semantic relations (C-maps Tools, Novak, Cañas)
  • Interpretations, aggregation, syntheses
BARRIERS

- Administrative overload
- Gaps in information infrastructure
- Individual barriers
- Lack of funding
- Societal interest in the quality research
- Social barriers
  - Research evaluation
VALUES OF RESEARCH

• Individual
  • Professional motivation
  • Deep interest
  • Discovery, new perspectives
  • Re-interpretation
  • Reconstruction
  • Intellectual pleasure
  • Learned scholar
    • Fascination by knowing

• Social
  • Bridging gaps in knowledge
  • Service to knowledge
  • Position of science
  • Open science – promotion
  • New discoveries, methods
  • New applications in practice
  • Understanding life, people, society
FINDINGS: WORKPLACE INFORMATION ECOLOGIES

- Interactions of researchers and information environments
  - Diversity – cultures of disciplines
    - (data, methodologies, practices, publishing, collaboration)
  - Adaptations
  - Integration
    - resources and services
    - information infrastructures
    - values
  - Sustainability, trust

- Context-dependent, dialogic, practice-driven workplace information literacy practices

- Digital spaces:
  - Participation in digital communities
  - collaboration
  - electronic publishing
  - digital literacy
DIGITAL SPACES
CONCLUSIONS

• Information practices of researchers in hybrid workplaces:
  • domain expertise, methodological literacy, practical experience
  • analytical and synthetic practices, interpretations, open science factors (data, transparency, digital tools), creativity

• Identified barriers: gaps in information infrastructures, disintegration, social barriers (science in society) and individual barriers
  • Lack of funding, administrative overload, understanding of science

• Identified values: deep motivation, service to knowledge
CONCLUSIONS: WORKPLACE INFORMATION ECologies

• Proposals for overcoming barriers
  • Integration of information infrastructures and values
    • Integrated information services, research management
    • Interdisciplinary networking, support of young scientists
  • Value-based design of digital services for communities in domains

• Workplace information ecologies
  • Community-based policies, tools, digital libraries
  • Creative digital spaces for researchers
  • Adaptations of information infrastructures: information sharing, data management, analyses, presentations
CONCLUSIONS: WORKPLACE INFORMATION ECOLOGIES

- Environment of trust
- Shared understanding of values
- Efficient and ethical use of information
- Clarity of expectations
- Flexible digital information services (value-added)
- Information sharing (social networking, digital tools)
- Collaboration, communication, participation
REFERENCES


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