

Qualitative Research in the Field of Information Literacy in the Second Decade of the XXI Century

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Abstract. The paper discusses some current methodological issues related to the field of Information Literacy (IL). It aims firstly at discovering what qualitative procedures have actually been employed in the empirical investigations into various aspects of information literacy in years 2011-2014. Secondly, it seeks to categorize them into research methods, data collection techniques/data sources, analytical frameworks, etc. The paper is descriptive and exploratory in nature. A critical literature review has been the leading method. The EBSCO's specialized database LISTA was searched to find articles reporting empirical research on different dimensions of information literacy. The main observation is that in years 2011-2014, as in the previous periods, the three methodologies (qualitative, quantitative and mixed methods) have been used in the IL research. The preferred qualitative data sources were the focus group and individual interviews. As for conceptual frameworks, the information practice or people-in-practice as well as socio-cultural perspectives seem to be growing in importance.

Keywords: Information literacy, methodology, qualitative research, XXI century.

1 Introduction

This paper discusses some current methodological issues related to the field of Information Literacy (IL). The main goal is to identify qualitative approaches, methods and techniques actually used in empirical research on information literacy in years 2011-2014.

The research question focuses on what qualitative research perspectives and procedures have really been employed in the IL domain in the second decade of XXI century, not how frequently they were utilized. In other words, this is a methodological study, not a bibliometric one. Searching Google Scholar and appropriate databases (LISTA, SSCI) reveals that up to the moment only few publications *fully* and *specifically* devoted to the *methodology* (regardless whether qualitative or quantitative) of IL research have yet been published. One of them is "Exploring methods in information literacy research" [1], a book issued in 2007. Of course, methodological reflection is present to a lesser or larger extent in many various IL works, e.g. accompanying reports from empirical investigations, and also as a part of the broader discussion on theoretical aspects of the Information Literacy domain [2].

At the beginning, the key concepts have to be clarified, that is the notions of information literacy and qualitative methodology. The ideas of research methods, techniques, and conceptual/theoretical frameworks or perspectives are shortly discussed in the appropriate units below (see the Findings section).

Today, the study and promotion of *information literacy* is central to the field of Library and Information Science (LIS) as well as library practice. But, despite its widespread use among librarians, information professionals and LIS scholars, the term “information literacy” lacks a single, universally accepted definition. On the other hand, there undoubtedly exist commonly shared feelings and understandings of IL, even if they are not always explicit and easily verbalized. A popular approach appears, *inter alia*, in the “Alexandria Proclamation on Information Literacy and Lifelong Learning”, where we read: “Information literacy comprises the competencies to recognize information needs and to locate, evaluate, apply and create information within cultural and social contexts” [3]. But in the last years various researchers, in particular, but not only, Basili [4], have shown that there are also other, of course interrelated, meanings of IL. Thus, the expression “information literacy” denotes not merely a feature of an individual, a form of personal knowledge and skills, but also a social phenomenon, a desirable goal of national educational policies, as well as a socially enacted practice [5], and a research area, the sub-discipline of LIS or even an “independent”, multidisciplinary field of study. In the present paper all the above listed understandings are accepted.

Further, moving to the *qualitative methodology* issues, there are two main factors influencing any reflection on the research methodology, not only within the Information Literacy field. Firstly, the terminology is not stable, for example some authors differentiate methods from techniques, other use both concepts interchangeably. Also, such terms as “conceptual framework”, “methodological approach”, “methodologies” (in plural), “paradigm”, “research frame”, or even “epistemology/philosophy” may or may not mean the same. Secondly, the research guidelines and procedures are dynamic, they evolve over time and are usually adjusted to the particular problems being investigated. As a result, and this has already been noted in the IL literature, it is not easy “to categorize them in a clearly defined ways” [6].

Also, all methodologies, approaches, research procedures etc., used in Information Literacy, LIS, and any other scholarly disciplines, are embedded in and influenced by the different philosophical assumptions of epistemological, ontological and axiological nature. This aspect, although both interesting and important, is not a matter of reflection in this paper. Those interested in that kind of problems may consult existing publications, e.g. [6-7].

Today there is an extensive general literature on qualitative methodology as such, including, *inter alia*, a specialized encyclopedia [8], and internationally recognized and frequently re-published books by Creswell [7], Denzin and Lincoln [9], Flick [10] or Silverman [11]. Also within the LIS area one can find a substantial set of methodological publications dealing with various aspects of qualitative research. Due to limited space in this paper only examples can be named, among them a series of articles by Shenton [12], an encyclopedia entry [13], and a handbook [14].

Detailed characteristics of qualitative research can be found in the above mentioned and many other publications, so only selected aspects of this methodology are signaled here and in the Findings section. Generally speaking, in qualitative research

human beings and how they create and interpret the world are in focus. It involves collecting and working with words, images, sounds and their in-depth, thematic analysis, not counting. Qualitative methodology comprises inductive, iterative and interpretive thinking. The research findings may often not be generalizable to the broader population or general theory, on the contrary, the focus is on in-depth understanding of cases, individuals and local settings.

The terms “qualitative design”, “qualitative methodology”, “qualitative research” are used interchangeably in the present paper.

2 Methodology

This paper is descriptive and exploratory in nature. The critical literature review with elements of qualitative content analysis has been the leading method [15]. The time period 2011-2014 was chosen to capture the most contemporary methodological attitudes and trends in the IL research.

EBSCO’s specialized database LISTA (Library, Information Science and Technology Abstracts) was searched to find articles reporting empirical research on different dimensions of information literacy. The query “DE INFORMATION literacy – Research”, with limiters (publication dates 2011-2014 and peer-reviewed journals only), retrieved 102 works (in June 2014). Only articles were included, editorials, letters, news items, and resource reviews were a priori excluded from the inquiry. The works fully and only partly devoted to information literacy have both been taken into account.

All of the 102 retrieved texts were looked through in order to select those utilizing the qualitative research design. Abstracts and, where necessary, full papers were reviewed to confirm or deny relevance.

Out of 102 articles examined only about one fourth (27, some might be considered borderline) occurred to be relevant for the present study. These have been publications utilizing qualitative or “at least” mixed methods research design and reporting actually carried out empirical studies. The excluded rest were papers:

- in fact not about information literacy, despite being indexed in the LISTA database with the descriptor “Information Literacy – Research”,
- based on quantitative research approach (mainly using questionnaire surveys and also school tests),
- or fully theoretical, discussing concepts and models.

Next, the 27 relevant articles were read in depth to identify main methodological approaches, as well as qualitative research methods, data sources, data analysis techniques and conceptual frameworks – declared and *actually* used. These analytic categories had been created a priori, basing on general qualitative-oriented literature (see the Introduction section above). Only those methodological perspectives and procedures that were explicitly and “consciously” stated in the examined 27 publications have been taken into account. Explicit naming of someone’s own methodological stance is in fact one of the basic signs of research being academic/scholarly. And only such a research is of interest in this paper.

An interesting spin-off of the present endeavor has also been a tentative identification of selected relations between some areas of IL research and preferred methodological approaches (see sections 3.1 and 4 below).

3 Findings

Findings are divided into five parts. Each part starts with the short characteristics of a given research problem/procedure. Then there are lists of identified – in the analyzed set of 27 articles – research approaches, methods, techniques and conceptual frames.

3.1 Methodological Approaches Identified in the Selected Set of the IL Articles

The first observation is that in years 2011-2014, as in the previous periods, the three methodologies (paradigms, research designs), namely the qualitative (interpretative), quantitative (positivist), and mixed methods (MMR) have been used in the information literacy research.

In the present paper, as already stated, the qualitative research design is in focus. But, as it occurred, only few – from the analyzed group of articles – have been “purely” qualitative. These are the works of Eckerdal [16], Papen [17] and Lloyd et al. [18].

The rest of the selected IL-related publications employed mixed methods research and triangulation of data, using both quantitative and qualitative procedures to answer their research questions. Whether or not this is a justified way of scholarly investigation is a matter of debate [19], but outside the scope of this paper. Interestingly, the mixed methodology appears mainly in the research on information literacy in the context of academic libraries, higher education or schools. Typically, such projects consist of a questionnaire survey to elicit quantitative data from the representative sample of pupils or students, and of a qualitative interview or focus group to get opinion from faculty, librarians or teachers. That type of attitude can be seen e.g. in [20-27].

3.2 Qualitative Research Design in the IL Domain – General Features (Iterativity and Intersubjective Verifiability)

Usually scholarly investigative process is broken down into a few major, linearly ordered stages: problem statement, literature review, choice of the method and studied objects (sampling), empirical data collection, analysis and interpretation of those data, and finally concluding and generalization (creating/discovering categories, concepts, descriptions, laws, models, typologies or theories).

In qualitative research separating these stages is “artificial”; in fact they are only abstract differentiations for the purpose of the methodological reflexion. In reality they are just functions of a broader task. The qualitative design is essentially *iterative*, the research phases do not make a linear sequence in time, on the contrary, all they co-exist from the beginning of any qualitative project, are intertwined and constantly re-shape each other. Inter alia, the “openness” of qualitative approach may imply far-reaching changes of the initially formulated research problem under the influence of collected and analyzed empirical material. Also stages of data collection and data

analysis “start” together, in other words – constant, iterative analysis takes place from the very beginning of empirical material gathering [11-12], [28].

Some Information Literacy authors, in particular Lloyd et al. [18] and Papen [17] are fully and explicitly aware of that. For example, Papen writes, reporting her research: “Initial data analysis, which identified salient themes, took place very shortly after each interview was conducted. In that way, the preliminary analysis informed the ongoing process of data collection. Once data collection was accomplished and all interviews transcribed, all transcripts were read and re-read repeatedly to identify salient themes and issues. Four key themes were identified. Data analysis followed an iterative approach, whereby themes which were identified in one interview were then looked for in others”.

Qualitative research, exactly as any other research, to be considered scholarly has to possess so-called *intersubjective verifiability*, meaning that any member of the academic community is able to check where the ways of collecting and analyzing data and reasoning have been proper and follow the scholarly rules. Because in qualitative design the investigative procedures are usually unrepeatable (for example, one cannot repeat exactly in the same way a longitudinal ethnographic observation or a narrative interview), the preferred tactic is to left so-called “audit trial”, that is to describe in detail the research process, its assumptions, conceptual frameworks, limitations, methods and techniques used, theoretical constructs, and – last but not least – the researcher’s own constrains and personal features influencing a given study [8], [29]. Among the analyzed publications only few have respected these methodological requirements, the examples are [17-18].

3.3 Research Methods

Roughly speaking, a research/scholarly method is a series of steps undertaken to acquire justified, reliable and valid knowledge. Research methods follow the agreed-upon rules, have their structure, and are used consciously with the aim to acquire new knowledge. Within a given method different data collection techniques can be used [28].

Examples of qualitative research methods are: action research, biography, case study, comparative methods, critical incident technique (called “technique”, but in fact being a method), critical literature review, delphi studies, grounded theory method, ethnography (traditional and online – netnography), historical research, life-history method, Sense-Making method [7], [9], [28-31].

In the analyzed set of the IL papers the following *research methods* have been named:

1. Action Research [32],
2. Autoethnography [17],
3. Case study [22], [33],
4. Critical literature review [34-35] (where this method was a leading one, not assistant, like in most works),
5. Ethnography [36],
6. Longitudinal studies [17],
7. Qualitative meta-synthesis [37].

3.4 Data Gathering Techniques, Data Sources, Sampling

In general, the following data gathering techniques (data sources) are accepted in the qualitative research:

1. Documents, occurring in various forms – written (texts), audial (recordings), multimedial (films, webpages), visual (graphics, photos); already existing, i.e. so-called natural data (blogs, users' questions at reference desk) or contrived, i.e. intentionally created for the purpose of a project (interview transcripts, users' diaries); official (legal regulations, library statutes) or not (advertisements, tweets),
2. Focus groups, group discussions, group interviews,
3. Individual interviews, of various kinds (in-depth, narrative, open, semi-structured, Sense-Making, unstructured)
4. Observation, in different variants (ethnographic, naturalistic, participant, semi-participant and non-participant, shadowing) [10-11], [38].

In the analyzed 27 articles the following *qualitative data sources* have been identified:

1. Conversations (recorded) [16],
2. Documents, texts (assessment tests, booklets, books, brochures, leaflets), graphics/pictures, and video-recordings [17], [36],
3. Focus group [18], [24], [39-41],
4. Interviews [16], [25-27], In-depth interviews [17], [23], Semi-structured face-to-face interviews [18], [32], [40], [42-43],
5. Reflective journals [22],
6. Research diary [17],
7. Think-aloud technique [44].

And as for *sampling* we have:

1. purposeful sampling, criterion sampling [17],
2. snowball sampling [17].

3.5 Data Analysis, Its Techniques and Conceptual Frameworks

Qualitative data analysis (QDA) makes the most significant phase, because the way of analyzing the gathered empirical material determines not only the research outcomes and their content, but also its credibility and validity.

QDA is a range of iterative processes and techniques employed to move from the qualitative (i.e. multidimensional, poorly structured, rich) empirical material into some categories, explanations, generalizations, interpretations, rules, typologies, and gain deeper understanding of the investigated people, phenomena and situations.

At the moment there is not one, commonly agreed standard for the qualitative data analysis. On the contrary, different approaches can easily be noticed. In addition, the ways of qualitative data analysis, categorization, interpretation, drawing conclusions, etc. rely heavily on the adopted conceptual or theoretical frameworks (sometimes

even called “paradigms”). Those frames provide analytical perspectives to working with the collected data [6], [12], [28].

Conceptual frameworks are the sets of assumptions (often of epistemological and ontological nature), worldviews, and/or models/theories that guide any qualitative research. However, the IL authors perceive those frameworks differently and to varying degrees of generality. Some refer to broad philosophical concepts like hermeneutics, other to methodological approaches, i.e. phenomenography [45], or to “concrete” theories, i.e. Bystrom’s theory of information activity [22].

In addition, within the conceptual frameworks/analytical perspectives there exist different *QDA techniques*, e.g. concept mapping, content analysis, constant comparative analysis, thematic analysis and other. Only a few authors reported these aspects of their IL research, among them Eckerdal [16], Lloyd et al. [18] and Papen [17], who applied “thematic analysis”, and van der Vaart et al. [44], who mentioned “inductive analysis”.

In the analyzed set of IL-related articles the following *conceptual/theoretical frameworks* or *analytical perspectives* have been explicitly named:

1. Bystrom’s theory of information activity [22],
2. The constructionist framework and positioning theory [16],
3. The Dunning-Kruger effect [40],
4. Ethnography [36],
5. The imposed-query model [40]
6. The information practice concept, the people-in-practice perspective [17-18],
7. Kuhlthau’s Information Search Process (ISP) model [22],
8. Phenomenography [43] [45],
9. The qualitative constructivist grounded theory approach of Charmaz [18],
10. Socio-cultural theories [18].

Some authors have also reported the joint usage of a few theoretical frameworks in their information literacy research [18], [40]. Others refer to the existing IL perspectives, e.g. Eckerdal [16], citing Limberg, Sundin and Talja [46], who had distinguished three theoretical approaches to information literacy: discourse analytical, phenomenographic and sociocultural.

4 Closing Remarks

The “pure” qualitative research in the IL domain in years 2011-2014 has usually been connected with *everyday life* information literacy, in particular with the health-related issues. On the contrary, the mixed methodology, more frequently used, has mainly been applied to information literacy in the context of *formal* education, from primary schools to doctorate courses, trainings offered by academic libraries, information skills instructions, etc.

In the studied period no research method may be distinguished as the most popular or leading one. The preferred qualitative data sources have been the focus group and individual interviews. As for conceptual frameworks, the information practice or people-in-practice as well as socio-cultural perspectives seem to be catching the attention of the IL researchers.

Based on a limited sample, this study undoubtedly has its constraints. It has been based on the content of only one source. The LISTA database, although comprehensive, indexing more than 750 LIS journals, plus books, research reports, proceedings, etc., does not, of course, cover the all IL-related publications. It would be interesting to check in the future projects where the same trends can be detected employing some other resources, e.g. Google Scholar or Social Science Citation Index (the category Information Science and Library Science).

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