

Analysis of the Development of Academic Writing in the *FJNSc* (*Finnish Journal of Nursing Science*)

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The purpose of this paper is to analyze the genre of the reviewed scientific articles published in the *FJNSc* (Finnish Journal of Nursing Sciences) during its history. The aim was to bring a critical approach to writing in nursing science and to discuss the dominant conventions of scientific writing in nursing. A total of 27 journals, which included 112 peer-reviewed articles, were analyzed. The analysis of the writing genre focused on the content of the articles as well as the activity systems of authors and their communities. According to the results, there is a growing tendency to write in research groups and multidisciplinary research teams, while the research projects have developed into larger and multidisciplinary projects. The articles in *FJNSc* were structured according to the traditional conventions of scientific writing. The analysis showed the need for critical discussion about scientific writing in nursing.

Keywords: academic writing, writing community, writing genre

Introduction

Writing and publishing play a central role in academic life. In new disciplines, such as nursing science, writing is an effective tool in constructing the culture of a new research community. Nursing was acknowledged as an academic discipline in Finland in 1979. In 1989, the first scientific journal of nursing in Finland was published, called *Hoitotiede* (the *FJNSc* (*Finnish Journal of Nursing Science*)). In developing a new science, it is also important to understand the nature of scientific writing from various perspectives, that is, the writing genre.

Whether nursing education should be offered in universities had been discussed in Finland since the 1920s, but the actual educational reform did not start before the end of the 1970s. Thereafter, nursing education has been undergoing constant changes. Academic nursing studies were established in nursing administration and teacher education in the 1980s. University teachers, researchers and students established the research foundation of nursing sciences in 1987. From the middle of the 1990s, bachelor-level nursing education began in universities of applied sciences. In the 2000s, nursing education at the master-level also started in these institutes.

When the research foundation of nursing sciences started to publish *FJNSc*, it was possible to study

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nursing science only in universities. Presently, nursing scientists work as teachers and researchers both in traditional universities and universities of applied sciences. In addition, nursing scientists work as researchers and developers in the nursing practice. It is obvious that the scientific articles published in *FJNSc* reflect the views of nursing science and nursing research held by the actors of nursing science.

The purpose of this article is to study how scientific writing in nursing science and the writing community in nursing science in Finland has changed during its 20 years' history. The focus of our interest is in the genre of scientific writing in nursing science. The data is a convenient sample of *FJNSc* between 1989 and 2007. The authors, the structure of the articles and the aims and methods of the research published in the articles were analyzed.

Our aim is to promote discussion about the dominant conventions of scientific writing and publishing in nursing science both nationally and internationally. From this point of view, we ask how the development of offering studies in nursing science in universities and universities of applied sciences and conducting clinical research in nursing science have affected scientific writing in nursing science. It is also interesting to discuss the phenomenon of the institutionalization of scientific writing.

The Historical Development of the *FJNSc*

The development of nursing science in Finland and the history of *FJNSc* are intrinsically bound together. Nursing research and writing in nursing research began as nursing education developed and university education in nursing science started.

Nursing studies at the university level first commenced in the University of Kuopio in 1979 in the administrative training program. To be able to apply for study in this programme, the applicants had to have a nurse specialist qualification, which required 2.5 years of prior studies leading to a diploma in nursing, three years of work experiences in a specific field and one year of specialist education. Studies in nursing administration and also nurse teacher training were transferred to the universities in full by 1996.

The first nursing professorship was established in 1985. In 1992, there were chairs already at seven universities. Two of them were eliminated before the end of the 1990s. However, nursing science received full-fledged scientific status as a university subject in 1997, when it was mentioned in the law as a degree (Regulation 1997/628 Degrees in Health Sciences).

The development of nurse education at the college level began in the 1990s in Finland. The current Finnish nurse education (Bachelor level) lasts for 3.5 years and the matriculation examination is required for all applicants. The education is offered in universities of applied sciences, which also offer administrative training as a specialization and teacher training, and since 2002, also practice-oriented master's level degree studies.

The development of university level nursing studies strengthened the research orientation of Finnish nurses. However, publication of the results of research activities has been rare, as well the availability of research results (Kuuppelomäki & Tuomi, 2003; 2005).

The foundation of nurse education was established in 1944, originally to publish literature needed in nursing education. The research conducted by these nurse researchers and also other scientific studies were published in the annual edition of *the Nursing Yearbook* since 1958. This annual publication was the starting point for *FJNSc*, which was published by the research foundation of nursing sciences together with the foundation of nurse education and the pro-nursing association.

The editor of *FJNSc* has been one of the nursing professors. The first reviewers of the articles were

professors of nursing, researchers in education and public health, professors of philosophy and doctors of medicine. Since the first journals, the editor and editorial secretary chose referees who were anonymous to the authors.

The Study

The genre of writing cannot be seen merely as texts that share some formal features, but as shared expectations among groups of people of how certain tools may be used to act together to accomplish shared purposes to further the object of the activity system (Russell, 1997). Writing shapes our thinking and our actions throughout our operations. Activity theoretical writing research has evolved primarily from North American genre research, which addresses various aspects of genre analysis (Russell, 1997).

Miller (2003) argued that genres should not be defined through their formal characteristics, but they must be seen as affecting the operation, as part of social processes. Also Russell (1997) emphasized the genre as local and dynamic. Texts cannot be seen in themselves as the subject of writing, but they are examined in the context in which they are created and where they are used. Therefore, a single author is seen as a part of the activity system, which gives meaning and motivation to writing. The genre should be understood as, not only what and how to write, but also why and to whom the text is written (Russell & Yanez, 2003).

In academic research, the writing community plays an important role. Writing is a way to integrate the academic community. Collaborative writing is very common in academic writing, but traditions vary greatly by discipline. Nowadays, up to 85% of scientific publications are written collaboratively (Cronin, 2004).

Research Questions

Writing genre can be defined in terms of the origin of the articles, the focus of the articles, literature used in the article and the writing community. The research questions are as follows:

- (1) What kinds of differences exist in the *FJNSc* writing genre, particularly when comparing the journals published in the 1980s, 1990s and 2000s?
- (2) How has the writing community changed during the history of *FJNSc*, especially when comparing the journals published in the 1980s, 1990s and 2000s?

Data and Data Analysis

The data were selected by discretionary sampling from three phases in the history of *FJNSc*. The first phase (the years of 1989-1990) represents the beginning phase of academic nursing research in Finland. The first doctor in nursing had defended her doctoral dissertation in 1984. The second sample was chosen to represent the phase when nursing science had gained the status of an academic science (the years of 1997-1998). Moreover, the publishing of *FJNSc* had been taken over by the Research Association of Nursing Science in 1996. The third sample represents the phase in which the number of doctors in nursing had increased and most of them were working as teachers and researchers in universities of applied sciences and the nursing practice (the years of 2006-2007).

The analysis was carried out by using content analysis. The teams of writing genre were categorized based on: (1) the original research of the articles, master's thesis, licentiate thesis, or doctoral dissertation, theoretical article, other research project and the theory of nursing science; (2) the focus of the articles;

nursing—patients, nurses, patients' relatives, concept definition; nursing education; nursing administration; (3) literature used in articles, scientific articles and books, which are various kinds of theses; and (4) the writing community, master/licentiate/doctoral student, and group of nursing scientists or an interdisciplinary author group.

Results

The sample consisted of 27 journals, which were published in 1989-1990, 1997-1998 and 2006-2007. The sample included 112 review articles and 44 other articles (see Table 1).

During 1989-1990, 26 reviews and six other articles were published in the journal. In 1997-1998, the number of review articles rose to 35 and in 2006-2007 to 51 articles. At the same time, the publication of articles other than review articles declined.

The first period of publishing *FJNSc* was characterized by the inauguration lectures of new professors. Similarly, "LectioPrae Cursor" presented by new doctors in nursing was published in the journal, especially 1997-1998, altogether totaling 18 pieces. The journals also included interviews of foreign guest researchers. Through these articles, new influences were brought to the development of research in nursing science. The number of studies and research results in nursing increased as the academic education grew. Therefore, in the 2000s, the journal focused on publishing scholarly articles, in particular. The data analysis focused exclusively on the analysis of the results of scientific articles.

The Original Research of the Articles

The first period of *FJNSc* was characterized by the fact that original research was conducted by licentiate thesis ($n = 5$) and master's thesis ($n = 7$) studies. Doctoral dissertations were not yet completed in nursing science in Finland at the end of the 1980s. Research articles ($n = 13$), which presented the results of research and development projects supported by external funding, were also published. There was only one article written by a professor reflecting her scientific views (see Table 1).

Table 1

The Origin of Scientific Articles

Period of journal articles	1989-1990	1997-1998	2006-2007	Total
The origin of scientific articles	(<i>n</i>)	(<i>n</i>)	(<i>n</i>)	(<i>n</i>)
Masters' thesis	7	20	15	42
Licentiate thesis	5	4	0	9
Doctoral dissertation	0	5	22	27
Developmental programs	13	5	5	23
Nursing science studies	1	1	1	3
Articles based on scientific research programs	0	0	8	8
Total (<i>n</i>)	26	35	51	112

In 1997-1998, the journal published review articles which reported results of master's or licentiate theses or doctoral dissertations ($n = 29$). The majority of the research was conducted as master's studies ($n = 20$). The studies of licentiate theses decreased by one ($n = 4$) when compared to the end of the 1980s. The first doctors in nursing science had finished their studies and their research results were published in the journal ($n = 5$). The number of articles describing the results of development projects declined to five. Additionally, in the end of 1990s, it was rare that professors would write about their scientific views ($n = 1$) (see Table 1).

In 2006-2007, the review articles originated from thesis studies ($n = 37$). The majority of the research was now based on the doctoral dissertations ($n = 22$). Articles based on licentiate theses were not published at all, because after the end of the 1990s, the licentiate thesis was no longer obligatory before undertaking doctoral dissertation. A surprisingly large proportion of review articles was continuing to originate in research conducted for master's theses ($n = 15$). It was typical that the original research was not mentioned in the articles. Articles in which the original research had been conducted in a research or development project were more common than in the 1990s ($n = 14$). Five of these articles described the development of education or nursing practice and eight articles were based on scientific research projects. One of the articles represented a scientific-theoretical discussion (see Table 1).

The Focus of the Research

At the end of the 1980s, the qualitative approach was used as the main methodological approach in articles derived from master's thesis studies. The amount of data was small and the studies described patients' or their family members' experiences of the patient's illness. On the contrary, the articles based on licentiate theses focused on studies in nursing education. The approach in these studies was quantitative, and therefore, the data sets were also large ($n = 350-500$). In addition, the articles reporting research in development programs had a quantitative approach. The focus was either in nursing education or in describing the views of nursing staff. The size of data varied, but were relevant to quantitative studies ($n = 100-300$) (see Table 2).

At the end of the 1990s, the research in nursing science had been developed to fit the concepts of a nursing paradigm. In articles originating in master's theses, both qualitative ($n = 7$) and quantitative ($n = 12$) approaches were used. These articles described in most cases the experiences of patients and their families ($n = 12$). In six articles, the study focused on describing nurses' perspectives. The studies based on licentiate theses described patients' experiences ($n = 2$) or developed methodology for future doctoral dissertation ($n = 2$). Studies in doctoral dissertations focused on developing nursing theory or concepts ($n = 3$) or describing patients', their families' and nurses' experiences ($n = 2$). Furthermore, articles based on development projects described the patients', nurses' and relatives' experiences. The approaches varied from qualitative research ($n = 3$) to quantitative research ($n = 2$) (see Table 2).

Table 2

The Focus of Research

Period of journal articles	1989-1990	1997-1998	2006-2007
Masters' thesis	(a) Experiences of patients and relatives	(a) Experiences of patients and relatives (b) Opinions of the nursing personnel	(a) Experiences of patients and relatives (b) Opinions of the nursing personnel
Licentiate thesis	(a) Nursing education	(a) Patients (b) Developing the research methodology of future doctoral thesis	-
Doctoral dissertation	-	(a) Developing of nursing theory or concepts of nursing (b) Experiences of patients, relatives and nurses	(a) Opinions of nursing personnel (b) Patients' experiences (c) Testing an instrument (d) Nursing education
Other articles	(a) Nursing education (b) Nursing personnel	(a) Experiences of patients (b) Experiences of relatives (c) Experiences of nurses	(a) Nursing practice

In 2006-2007, the phenomena under study had not changed when compared to the 1980s and 1990s. The articles originating from master's theses continued to describe the patients' and their families' experiences ($n = 8$), identifying the nurses' perspectives ($n = 5$) and the quality of nursing ($n = 1$). The research approach in these studies was qualitative and small data sets were used. Views of nursing staff ($n = 6$) and the experiences of patients and their families ($n = 7$) were also the focus of research in some of the articles originating from doctoral dissertation studies. In addition to these articles, there were articles in which the testing of nursing theories ($n = 2$) was reported or described, or explained the nursing students' views on nursing education ($n = 2$). In several articles ($n = 13$), the sample sizes were large ($n = 800-1420$) and the approach was then, of course, quantitative. If the original research was conducted for a doctoral dissertation ($n = 4$) with a qualitative approach, the approach was clearly defined (ethnography, phenomenology and grounded theory) and compatible with the phenomenon under study and the sample sizes were small (see Table 2).

The Literature Used

The references used in the review articles published in the *FJNSc* changed between the 1980s and 2000s. During the early years of the *FJNSc*, at the end of the 1980s, the articles originated from master's thesis studies. The authors mainly used international nursing science and nursing methodological literature. If the author referred to a review article, it had been published in the Finnish Nursing Yearbook. The authors only seldom used international references. The average number of references was 10. In the theoretical articles as well as in the articles based on a licentiate thesis or developmental projects, the number of references varied between 12-28. The number of references was most commonly under 20. In these articles, the references were international review articles, books and research reports.

In the 1990s, the number of references increased ($n = 13-84$). It was somewhat surprising that articles originating from master's studies were more frequently referred to than articles based on licentiate or doctoral dissertations. It may also be noticed that in the articles published in the *FJNSc*, it was very rare that the authors had used Finnish scientific reports or review articles as references ($n < 4$).

In 2006-2007, the quality and the number of the references used in the articles continued to vary greatly. In the articles originating from master's thesis studies or developmental projects, the authors referred to textbooks or research reports published in publication series. However, some articles were used as references in all review articles which were published (average, $n < 10$). On the other hand, the number of references varied between 27-46. The authors of articles originating from doctoral dissertations, research projects or theoretical reflections, used international review articles as references. In these articles, only few books or research reports were mentioned in the list of references. The number of references varied between 22 and 60 (usually 30-40).

The Writing Community

Between the end of the 1980s and the 2000s, the community of authors in the *FJNSc* has changed in an interesting way. The change has taken place from single author writing to collaborative writing in research groups or teams. In the first journals (1989-1990), the authors were university teachers or researchers who wrote alone. They wrote about their own studies, which they had conducted in order to achieve a licentiate, doctoral or master's degree. The aim of writing was to gather merits as a researcher (see Table 3).

Table 3

The Researchers: Authors and the Meaning of the Research Community

The years	The authors	Individual/collective meaning
1989-1990	A. The academic nursing staff alone ($n = 11$) B. The academic nursing staff in a writing team ($n = 1$) C. The academic nursing staff with the students ($n = 2$) D. The student of nursing science alone ($n = 7$) E. Other nursing scientists ($n = 1$) F. Multi-scientific research team ($n = 1$)	A. Obtaining a degree and merits ($n = 2$) B. Developing practices ($n = 7$) C. Obtaining a degree and developing practices ($n = 10$) D. Developing nursing theories ($n = 4$) E. -
1997-1998	A. The academic nursing staff alone ($n = 2$) B. The academic nursing staff in a writing team ($n = 5$) C. The academic nursing staff with the students ($n = 19$) D. The student of nursing science alone ($n = 0$) E. Other nursing scientists ($n = 3$) F. Multi-scientific research team ($n = 2$) G. Scientists of other fields ($n = 3$)	A. Obtaining a degree and merits ($n = 2$) B. Developing practices ($n = 2$) C. Obtaining a degree and developing practices ($n = 25$) D. Developing nursing theories ($n = 6$) E. -
2006-2007	A. The academic nursing staff alone ($n = 3$) B. The academic nursing staff in a writing team ($n = 10$) C. The academic nursing staff with the students ($n = 4$) D. The student of nursing science alone ($n = 1$) E. Other nursing scientists ($n = 4$) F. Multi-scientific research team ($n = 11$) G. - H. The academic nursing staff with other nursing scientists ($n = 18$)	A. Obtaining a degree and merits ($n = 6$) B. Developing practices ($n = 12$) C. Obtaining a degree and developing practices ($n = 24$) D. Developing nursing theories and research practices ($n = 5$) E. Analyzing the needs for nursing research ($n = 4$)

During 1997-1998, only two articles were written by a single author belonging to the nursing faculty. In most of the articles, the authors represented the nursing faculty and their students writing together ($n = 19$). In some articles, the team of authors also had representatives outside the nursing faculty, from the nursing staff in the hospitals ($n = 3$). It was significant that there were two articles which had been written in a multi-professional and interdisciplinary team. Among the articles, there were also authors representing areas other than nursing science ($n = 3$) (see Table 3).

Also in the 2000s, the nursing faculty (teachers and researchers) were active in writing articles to the journal ($n = 17$). There was one article written by a nursing student and four articles written by a researcher working outside the university. The articles written by interdisciplinary research teams became popular ($n = 11$) (see Table 3).

The authors and the writing community that they represent can be seen as very homogenous in 2006-2007. The authors were university faculty members and doctors working in universities of applied sciences or in health care. This phenomenon is a consequence of the increased number of doctors and the development of education in universities of applied sciences. However, when studied quantitatively, the number amount of authors outside the university faculty is rather small. This finding seems obvious, but on the other hand, it can also be noticed that while the writing community has expanded, it has remained very limited (faculty-centered) at the same time (see Table 3).

Discussions and Conclusions

Since its beginning, the purpose of the *FJNSc* was to disseminate the results of Finnish nursing research to Finnish nurses. Moreover, the purpose was to pass along information about Finnish nursing science and promote possibilities for nurses to engage in discussion about nursing, nursing science and its future in Finland.

In fact, in the beginning, the *FJNSc* published various kinds of articles on nursing. The “scientific articles”

originated mainly from master's or licentiate thesis studies. Moreover, the doctoral students also worked in the departments of nursing. Both the doctoral and master students wrote articles on their thesis or parts of their thesis. Interestingly, neither master nor doctoral students mentioned the names of supervisors as writers in their articles. The writers usually referred to nursing books, methodology books and reports in their articles. Only a few authors used international articles in their references.

With regard to the "scientific" articles, the situation was about the same, also during the 1990s. The origin of scientific articles rested mainly on the master's thesis (30/35). The articles were usually empirical studies describing nursing practice. The articles analyzing the theory of nursing science were labeled under the headline discussions. The university personnel had a remarkable role as authors during the 1990s. The master and doctoral students wrote articles together with their supervisors at the universities and the number of research groups grew. On the other hand, educational and medical scientists also wrote articles to the *FJNSc*, but alone.

During the 2000s, most of the articles published in the *FJNSc* had been written collaboratively. Most of the writing teams consisted of personnel of the department of nursing together with an earlier master's or doctoral student in nursing. The origin of the article was from the students' master's thesis ($n = 15$) or doctoral student's doctoral dissertation ($n = 22$).

The change in the writing community in the *FJNSc* is remarkable, if we compare the situations in the 1980s, 1990s and 2000s. The current tradition of collaborative writing has been influenced by writing traditions in the field of medicine, where the personnel of the department write articles together with the students. However, in the field of medicine, the authors represent the same national/international research group and receive funding for the research program. In the nursing field, the authors represent personnel within the same department of nursing. The origin of the articles is often derived from an individual master or doctoral student's research. The doctoral student, if he or she is lucky, receives individual funding for his /her study.

The first publication of the *FJNSc* in 1989 was the starting point for the development of an independent academic discipline. The development was rapid, because as early as 1997, nursing science had gained its autonomy. This status can be recognized from the profile of published research, still apparent in the 2000s. Furthermore, the pressure to internationalize research forces authors to prefer international references over the Finnish ones. This issue is a central problem in a small discipline in a small language community, such as Finnish.

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