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Marjale von Schantz & Kaija Lind (eds.)

BETTER HEALTH VIA RESEARCH



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PREFACE

Research, development and innovations (RDI) concerning working life and higher vocational education are among the main tasks of the universities of applied sciences in Finland. At the Turku University of Applied Sciences, the Faculty of Health Care has its own RDI programme called Expertise of Health Care and Medication. The RDI activities at the faculty focus on this programme, which builds an umbrella for the different research and development work at the faculty. The aim of these activities is to enhance the surrounding working life, to help it to reform its working methods as well as to offer them new ideas on how to develop and improve the quality of their work to provide the best for the patient or the client. In addition to this, RDI work should also develop education in the health care sector while giving new ideas and evidence-based information for teaching and the learning environments.

The RDI programme Expertise of Health Care and Medication is divided into four themes:

- Health promotion
- Patient safety
- Expertise in medication
- Development of health services

Collected in all of these themes, there are several research and development activities where the students can contribute by attaching their bachelor's or master's thesis as part of the programme. At the Faculty of Health Care, our goal is to promote public health and increase health knowledge as well as to support the health and wellbeing of the region. We anticipate future challenges in close cooperation with our partners regionally, nationally and internationally.

This publication presents some examples of the projects carried out at the faculty as parts of the Expertise of Health Care and Medication RDI programme, which was presented earlier in another publication (von Schantz and Heinola 2012). Specifying the themes of the programme has attempted to focus the RDI work and make it even more effective. These articles give some more in-depth examples of the programme. Various research and development projects are presented – projects that offer tools for people in working life to develop their work. They have also given the students an interesting and meaningful basis and structure for their research work, and created evidence and new ideas for developing education in general. The articles show how broad and deep the RDI work at the Faculty of Health Care is.

This new article collection is part of the series of publications under the title *Tutkien terveyttä* (Better Health via Research) by the Faculty of Health Care at Turku University of Applied Sciences. Since 2004, the faculty has published a yearbook presenting our staff's and students' RDI activities. We hope that our international partners can also benefit from this publication, and perhaps suggest some new possibilities for cooperation with Turku University of Applied Sciences based on this book.

Turku 20.2.2013

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PROMOTING HEALTH OF SCHOOL CHILDREN

Camilla Laaksonen, Eleni Evagelou, Sotirios Plakas & Marjale von Schantz

Health of present day children strongly predicts health and well-being of future societies. European school aged children (ages 5–15) generally enjoy good health. However unhealthy lifestyles, such as sedentary and physically passive lifestyle, unhealthy nutrition and sleeping habits as well as use of substances, are quite common. In addition, school aged children have reported several psychosomatic symptoms and rate their self-assessed health as poor quite frequently. In recent years, concerns have been raised about their mental state and a growing health inequality among children within and between European countries (Cavallo et al. 2006, Sourander et al. 2008, Laaksonen et al. 2008, 2010, Betz 2010, School Health Promotion (SHP) Study 2010, UNICEF 2011, WHO 2011).

Promoting health of school aged children is essential for building a solid foundation for future health. There is strong evidence that health and health-related behaviour in childhood predicts future health. It is well known that several symptoms and health problems that have begun in childhood, such as headache, physical inactivity, obesity, eating disorders and depression, tend to follow into older ages (Telama et al. 2005, Gyllenberg et al. 2011). It is also known that aspects having to do with the environments children grow up in, such as family background, affect the individuals' perceived health and well-being in later life (Sourander et al. 2008). Children start to adapt their lifestyle and health behaviour in a very young age but school age is the crucial time for making more conscious and individual health related decisions. The cognitive development in school age is very fast. The child learns to read and write, and the ability for high level abstract thinking develops rapidly. At the age of 10, children normally read fluently, and by the age of 12 the ability for abstract thinking is well developed. The age between 10 and 12 is commonly considered as an essential age regarding the development of moral thinking. A 12-year-old is usually capable of moral thinking based on the previous,

strongly norm based thinking toward a more holistic thinking that includes considering potential consequences. (Feigelman 2007, Marcell 2007.)

SCHOOL AS AN ENVIRONMENT FOR HEALTH PROMOTION

As the influence of the family still strongly affects the lifestyle, health and health behaviour of school aged children, the influence of friends, teachers, school, media and other environments is widely recognized (Feigelman S. 2007). Schools have been addressed as potential environments for health promotion as they generally reach most of the children between ages 5 and 15. Additionally, it has been suggested that schools carry the potential for not only reaching the children but also parents and families (WHO 2011, 2012.) Research published in peer review journals have been describing school-based interventions aiming at promoting health, for example in relation to physical activity (Jurg et al. 2008, Dobbins et al. 2009), nutrition (Plachta-Danielzik et al. 2007, Singh et al. 2009, Llargues et al. 2011), substance abuse (Thomas & Perera 2008, Faggiano et al. 2008), sexual behaviour (Shepherd et al. 2010), mental health (Haraldsson et al. 2008, Berridge et al. 2011) and preventing injuries and accidents (Collard et al. 2009, Germini et al. 2010,). Cochrane reviews describing school-based interventions have been published on promoting physical activity (Dobbins et al. 2009), preventing smoking (Thomas & Perera 2008), abuse of illegal drugs (Faggiano et al. 2008), violence (Mytton et al. 2009) and child sexual abuse (Zwi et al. 2009).

Dobbins et al. (2009) reviewed 26 Randomized Controlled Trials (RCTs) on school-based interventions aiming at supporting physical activity. Positive effects of these interventions were found to be the duration of physical activity and the time spent watching TV. However, no effects on leisure time physical activity, Body Mass Index (BMI), Respiratory Rate (RR) or pulse were identified. Perera et al. (2008) reviewed 23 RCTs on school-based interventions aiming at preventing smoking. The identified interventions included distributing information, social influence approaches, social skills training and community interventions. The review found little evidence that merely offering information was effective in smoking prevention. About half of the identified interventions showed some short-time effects, but little evidence exists on long term effects of any of the identified interventions.

School-based interventions aiming at preventing use of illegal drugs were reviewed by Faggiano et al. (2008). The authors identified 29 RCTs including all together over 45 000 school children (mainly 6.–7. graders). According to this review, interventions focused on information, attitudes, social and decision-making skills, self-esteem and resistance to peer pressure. Social skill programmes were most widely used. The programmes were mainly interactive and involved external educators. The positive effect of the interventions was an increased knowledge regarding illegal drugs. Effects on assertiveness, attitudes and intentions to use drugs were rarely assessed and no solid evidence was found about long term effects of these interventions.

Violence preventing school-based interventions were reviewed by Mytton et al (2008). They identified 56 studies, not all RCTs. Some improvements in violent self-reported behaviour were found, but the positive effects could not be generalised to the outside of the school settings however and no evidence was found about the actual violent behaviour. Also evidence of long time effects as well as the cost-benefit of the interventions was lacking. Zwi et al. (2008) identified 15 school-based trials aiming at preventing child sexual abuse. Some of the identified programmes showed positive effects regarding knowledge and self-protective behaviours, but several also reported harms. The authors underlined that caution is needed for implementing these interventions, and requested further investigation for suitable forms of presentation and optimal age of children to participate in these types of interventions. They concluded that school-based programmes should, at best, only be seen as part of wider communal approaches to preventing child sexual abuse.

Social media affects health promotion. As schools serve as potential, quite traditional settings for health promotion of school aged children, new settings, such as the social media, may serve as additional settings in the future. Internet and social media have become part of the lives of present day school children (Pujazon-Zazik & Park 2010.) The social media refers to activities where people gather online to share information using conversational media to create and share words, pictures, audio material or videos (Safko & Brake 2009). Sterne (2010) defines the categories of social media as follows: forums and message boards, review and opinion sites, social networks, blogging and microblogging, bookmarking and media sharing. School children use several different forms of social networking (SNS), such as instant messaging, visiting and creating profiles into social network sites, blogging, going to online chat rooms, internet dating and emailing. (Pujazon-Zazik & Park 2010.)

Along with the frequent use of SNS there is a growing body of research focusing on the health related effects of the SNS on school aged children. It has been reported that social media carry several potential health risks, such as cyber bullying, increased risk-taking behaviour, sexual predators (Pujazon-Zazik & Park 2010) and promoters of unhealthy lifestyles (Seidenberg et al. 2012). On the other hand the positive health related effects of the social media, such as developing children's self-control, tolerance and respect for others' viewpoints, critical thinking and decision making (Berson, Berson & Ferron 2002) have been reported. Five broad purposes for the use of social media in the context of health promotion have been described: 1) communication with the consumers, 2) establishing a positive brand with the consumers, 3) disseminating critical information, 4) expanding the reach and including broader and more diverse audiences (O'Mara 2012) and 5) fostering partnership and engagement. Health promoters should utilise social media for what it potentially can deliver, but not as a solution to complexities in health behaviour and lifestyles. The use of social media for health promotion has potential only for a supporting role, and thus it should mainly be utilised for enhanced communication and improved for its capacity to promote health promoting programmes, products and services. (Neiger et al. 2012.)

THE CORE OF HEALTH PROMOTION IS ETHICS

Following the presentation of some backgrounds, evidence and settings regarding health promotion of school children, we finally go to the most essential and core element of health promotion; the ethics. The basic ethical question regarding health promotion of school children, as well as all other ages and populations, relate to the justification of actions targeting individual choices, behaviours and lifestyles (Leino-Kilpi 2009a). The justification for health promotion is based on respect for general human rights, autonomy, justice, honesty, reliability, doing good and avoiding harm, equality and empowerment (Cribb & Duncan 2002, WHO 2011).

From the nursing perspective, health promotions follow general ethical guidelines of nursing (Leino-Kilpi 2009a). Professional nursing includes two main responsibilities: 1. the responsibility for the person and 2. the responsibility for the nursing task. The responsibility for the person includes the respect for human rights, doing good, avoiding harm and equality (Thompson

et al. 2006, Seedhouse 2007, Leino-Kilpi 2009b). The responsibility for the nursing task includes the justification of the action, reliability and respect of colleagues (Thompson et al. 2006, Leino-Kilpi 2009b). As the general ethical guidelines for nursing serve as the basic building blocks, additional ethical guidelines, depending on the nursing field, can be implemented.

The discussion about ethics of health promotion has been suggested to hinge around the attitudes towards autonomy. Some view autonomy as a paramount while others suggest empowerment or respect to be most essential (Tannahill 2008). The Ottawa Charter for Health Promotion (1986) is often addressed as the ethical cornerstone for most health promoters around the world, but there is a need for more serviceable ethical principles regarding health promotion in clinical practice as well as research. There are suggestions for common ethical criteria for health promotion research, including criteria of the relevance, underlying values, discourse, practice, action and context of health promotion. (Mittelmark 2007.) In addition to the discussion about ethics of health promotion in general, the relation between evidence and ethics in the field of health promotion is quite frequently discussed in the literature (Tannahill 2008, Carter et al. 2011).

HEALTH PROMOTION REQUIRES TARGETING LEVELS FROM INDIVIDUAL TO COMMUNITY, NATIONAL TO GLOBAL

In addition to the previously addressed topics regarding health promotion of school aged children, there still remain several highly relevant aspects such as gender as well as emotional, social, cultural, physical and political environments. Interventions aiming at promoting health need to target all levels; individual, communal, national, international and global. The interventions need to be based on ethically solid backgrounds and the best available evidence. International collaborative research is essential (Betz 2010) for developing, implementing and disseminating such interventions to promote the health of present day children and future societies.

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GLOBAL CHALLENGES IN NURSING – CASE IMPRIM

Maika Kummel & Susanna Mört

INTRODUCTION

The Improvement of public health by promotion of equitably distributed high quality primary health care systems (ImPrim) project is a flagship project included in the EU Strategy for the Baltic Sea Region (BSR) Action Plan. The project is mainly sponsored by the EU Baltic Sea Region Programme.

The project is implemented by 13 partners from six countries around the Baltic Sea: Belarus, Estonia, Finland, Latvia, Lithuania and Sweden. The Blekinge Centre of Competence, a division of Blekinge County Council (Sweden), is the lead partner. The Kaliningrad region is also associated with ImPrim, although externally funded. The Ministries of Health of Belarus, Estonia, Finland, Latvia, Lithuania and Sweden strongly support ImPrim.

The ImPrim project aims at promoting equitably distributed high quality Primary Health Care services in the Baltic Sea region in order to increase the cost-efficiency of the public health system and to more efficiently counteract communicable diseases as well as health problems related to social factors. Turku University of Applied Sciences (TUAS) participated in this ImPrim project's work package 4 by organizing courses and a workshop for nurses and doctors from respective countries.

NURSING TRAINING INTENSIVE COURSES AND WORKSHOP ON MOTIVATIONAL COUNSELING AND TEAMWORK

Turku University of Applied Sciences (TUAS) and Blekinge Centre of Competence (BCC) organized two weeks long intensive courses for nurses from Estonia, Latvia, Lithuania, the Russian Federation (Kaliningrad region),

Finland and Sweden in 2010. The intensive courses included discussions about the role of nurses and about how to increase the scope and content of nurses' work in Primary Health Care (PHC). There was also training concerning team work skills, health promotion and various medical fields. After these courses, most of the nurses carried out a pilot AUDIT called Nurses work load in order to describe their work (structure, processes and results) in respective countries.

One year later (2011) TUAS and Klaipeda University organized a workshop on motivational counselling and teamwork. The workshop was targeted for doctors and nurses. Courses continued in TUAS with a Follow-up seminar in Turku 30.5.–1.6.2012. The seminar was specially targeted for those who earlier had participated in the Nursing training or in the Workshop on motivational counselling and teamwork. During these follow-up days, there were oral presentations on what was learned or what was developed as well as experiences and outputs (e.g. AUDIT results, plans for the future) from the previous events.

According to the AUDIT results, the work load and practical work of nurses differed between countries in the Baltic Sea Region (BSR). For example, nurses' work at PHC reception in Finland and in Sweden is independent, responsible and diversified. However, in Lithuania nurses work independently only at 4–24 % of their working places. In the BSR region in general, it is important to realise nurses' great possibility to work in a more comprehensive and independent way. Results from Kaliningrad already show that in almost every consultation nurses discuss lifestyle factors and self-management with clients.

The follow-up seminar days included lectures about supporting older people's independent living at home through social and health care collaboration by PhD Sini Eloranta and cognitively empowering internet-based patient education for ambulatory orthopaedic surgery patients by PhD Katja Heikkinen. The programme also included visit to the new part of the Turku University Hospital. At the end of the follow-up seminar, we had very enthusiastic and fruitful brainstorming about how our collaboration could continue in the future.

Conclusions in the follow-up seminars included that in the Nordic countries the nurses' role is already very independent. In the other countries of BSR, the test audit shows that nurses' role is changing to more comprehensive

and independent direction. Creating the network between nurses in an international training context is highly recommendable to stimulate discussion about the position of nurses and the possibilities of nurses' independent work.

There is also global awareness of the fact that the role and responsibilities of nurses are expanding as they become more involved in administration and leadership. Nurses are taking on executive positions, and that is why leadership skills as well as interpersonal, management, mentoring and interprofessional skills are extremely important. It is essential that nurses are provided with proper education and training that will help them become successful nurse executives. (See Fredericksson & Nickitas 2011.)

Additionally, disparities in the health of socially and economically disadvantaged compared with more advantaged populations are observed worldwide. The lack of progress in addressing these disparities compels a search for new ideas and evidence concerning potential solutions. (Kumanvika 2012.) The vital role of nurses in addressing health and health disparities in an increasingly globalized environment was recently emphasised by the National Institute of Medicine (US).

GLOBAL CHALLENGES IN NURSING

The Institute of Medicine of the National Academies (US) recommends that nurses take a lead in reforming health care, but also recognises barriers for nurses assuming such roles. In North Carolina, nurses must be on hospital boards and active in health policy debates, and they must take part in financial decisions that improve the care and keep hospitals financially viable. (Mullinix 2011.) It is important, however, to notice how nurses already have a heavy workload and how this workload may limit the possibilities that nurses could take a lead in such matters. For example Egyptian maternity nurses are already overwhelmed with heavy workload, with a significant amount of professional and non-professional responsibility in an environment with limited resources. It is important to inform health policy makers for requisite changes that would better support nurses in their work and improve their satisfaction toward their career and profession. (El-Nemer 2012.) In the US, Kalisch (2012) examined the relationship between actual nurse staffing levels and missed nursing care. Her conclusions were that missed nursing care needs to be acknowledged as a

problem so that strategies can be developed to reach greater nurse staffing and that way to improve the quality of patient care and professional satisfaction.

Evidence-based practice

Nurses serve instrumental roles in ensuring and providing evidence-based practice (EBP) (Beyea & Slattery 2006). The most commonly used definition of EBP is “the conscientious, explicit and judicious use of the current best evidence in making decisions about the care of individual patients” (Sackett et al. 1996). Nurses must continually ask questions like: “What is the evidence for this intervention?”, “How do we provide the best practice?” and “Are these the highest achievable outcomes for the patient, family and nurse?” Nurses are also well-positioned to work with other team members to identify clinical problems and use existing evidence to improve practice. EBP allows nurses to implement the most up-to-date, research-tested and high-quality patient care. (Beyea & Slattery 2006). Caliri’s et al. (2012) study Challenges to improve evidence-based nursing practice in a university hospital in Brazil found out that educational activity within the institution was the most common way of updating the knowledge of the staff. Of the 386 participants, 180 professionals participated in scientific events, 82 in committees or study groups, 299 in educational activities offered by the institution, 20 subscribed to scientific journals and 217 read scientific publications. The other sources for updating their own knowledge were using the library and the internet or asking the other nursing staff or other professionals. Registered nurses with a master’s degree used more active strategies such as the use of library and nursing journals to search for scientific information than registered nurses without a master’s degree. The results indicated that the staff’s accessibility to evidence must be improved.

One example of the innovative way of bringing EBP and research to nurses in their workplace is the Virtual Journal Club (VJC). By implementing a VJC, nursing staff can facilitate sharing collective knowledge, engage in the discussion during patient care downtime and establish multi-disciplinary collaboration. This EBP project was created to determine whether an innovative VJC in the intensive care unit improves and increases nursing staff participation and satisfaction with EBP and research in comparison to the traditional format. The project was developed using the Clinical Excellence Through EBP model: Define, Assess, Plan, Implement and Evaluate. The implementation of the

VJC included a monthly article placement by a nurse via MS SharePoint, and the reviews and replies by 30 nurses in an electronic blog format about the article's significance to their practice. The reviews and responses were also produced by the research specialist and physicians. According to the results, five articles have been posted since the inception of the VJC, with a total of 88 postings during five months. On average there were over 15 responses per article. The feedback received from the nurses included following responses: a sense of engagement, reduced fears of reviewing literature and a sparked interest in research and EBP. (Garcia 2012.)

The importance of patient-centred studies and need of innovative interventions

The importance of patient-centred studies is also highlighted globally. The Patient-Centered Outcomes Research Institute (PCORI, US) announced in August 2012 a new initiative aimed at engaging patients and other health care stakeholders as meaningful and active partners in PCORI's efforts to build a patient-centred research community and refine its research agenda. The people who are the most affected by medical research must have a central role in defining what should be studied. For example, Kummel (2008) made an intervention study about the effects of counselling and guidance among coronary artery bypass (CAB) patients. The study started based on observations of staff members at the heart organization. According to these observations, there were gaps in counselling and guidance intended for CAB patients. The intervention included counselling and guidance in small groups. The intervention of the non-acutely operated patients was implemented prior to and following surgery, whereas the intervention of the acutely operated patients was implemented only after surgery. Counselling and guidance had positive effects to the frequency of alcohol use among non-acutely operated men and to the frequencies of exercise and functional ability among women. The intervention also had an effect on the exercise frequencies of elderly and acutely operated men.

One challenge in global nursing research is the need of innovative interventions. Bux (2012) examined in his study how high fidelity patient simulators can be used as an innovative technology to train nurses (n = 63). The results of this study indicated a positive relationship between the use of a clinical simulator and learning outcomes. Nurses perceived clinical simulators to be a useful and

effective educational tool to train nurses in hospital settings. They also viewed the use of simulators to be a helpful, motivating, innovative and practical way to train nurses. Human patient simulators are recommended for use when evaluating clinical competences for nurses and developing in-hospital simulation training programmes using multidisciplinary team members to foster the use of an integrative approach to patient care management. Also Zlatkin (2012) pointed out the importance of simulation trainings into nursing education. He reported that simulation allows nursing students the reconstruction of reality and enables practicing in a controllable and safe environment. His results indicated that the students trained by simulations had significantly higher performance levels of basic nursing activities, levels of job satisfaction and choosing nursing as a career than the non-simulation group.

Effective teamwork and non-communicable diseases

Effective teamwork and communication is essential to the delivery of safe and reliable patient care (Pfrimmer 2009). Isaksson (2011) studied teamwork experiences in primary health care (PHC). It was generally perceived useful, and teamwork experiences were mainly positive. Teamwork in PHC was seen to promote the quality and efficiency of care and to improve the availability of PHC services, knowledge sharing and learning. The challenges of teamwork were the lack of teamwork skills, attitudes, utilisation of know-how, organization of work and expectations of the community. A study by Barrere's et al. (2012) showed that clinical simulation streaming has potential as an effective strategy for engaging nursing students in the learning process as well as for promoting teamwork. They presented that streaming is a method of delivering the scenario portion of the simulated clinical experience for a large group. In their study, student preparation for streaming began three weeks in advance, with planned faculty guidance, coaching and support. Following each streamed scenario, faculty-led classroom debriefings took place. (Barrere 2012.)

The incidence and rise of non-communicable diseases (NCDs) are a significant global public health threat. Nurses are well-positioned to support health promotion and prevention efforts. A survey of 1600 nurses in eight countries was conducted to better understand how nurses perceive their role in addressing risk factors associated with NCDs as well as the types

of supports required in order to facilitate this work (Decola et al. 2012). According to the results, 95 % of nurses wanted to use their knowledge, skills and time to educate individuals on the threat and prevention of NCDs. They expressed their belief that they should be spending significantly more time on preventing the development of NCDs. However, nurses' potential to do this is diluted by heavy workloads. Research has demonstrated that nurses are effective at supporting individuals to make behaviour changes, administering disease management programmes as well as enabling self-care. Practice environment issues that prevent nurses from reaching their potential need to be addressed. Many studies show the important role of nurses to prevent NCDs. For instance, Hernshorin (2012) study concern was A new challenge for the Millenium: Type 2 Diabetes in Children. The children's overweight and obesity lead to the fact that Diabetes 2 is now a pediatric condition. Hernshorin's results showed that the educational programme given by nurses was successful in increasing children's knowledge and awareness about Type 2 diabetes. She concluded that early and age-appropriate interventions by healthcare professionals to educate children may reduce the risk for developing Type 2 diabetes.

CONCLUSIONS

ImPrim has produced tangible results which will have an impact on the project's objectives. Nurses as well as doctors from each project country have been trained in modern family medicine. The courses were designed to provide state of the art models on how to work in a more comprehensive way, in which nurses have an individual responsibility in teams with the family doctor. (Wilkens & Ovhed 2011.) The ImPrim project's work package 4 has focused widely on the changing role of the nurses. ImPrim project is an excellent example of how to increase the consciousness of the importance of the nurses' role internationally. In the future, we still have several global challenges in nursing. The role and responsibilities of nurses are expanding, and it is essential that nurses are provided with proper education and training.

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MANAGEMENT OF HEALTH CARE-ASSOCIATED INFECTION RISKS – VARIOUS POSSIBILITIES FOR LEARNING

Marjale von Schantz, Sanna Ojala & Raini Tuominen

A majority of adverse events or cases of malpractice related to the treatment of health care clients involve infections. Infections result in suffering and financial losses for patients, their families and friends, health care and society. Studies show that approximately 10–15% of all treated patients have an infection, which was formed or germinated during treatment in a health care facility. This figure is the same in all industrialised countries. Studies also show that at least half of these cases would be preventable by: learning from patient safety and adverse events; adhering to recommendations; systematic management and monitoring of operations; training and research; and anticipating risks. (EU 2009.) Therefore, new means and innovations for preventing and controlling health care-associated infections are actively being developed and discovered (Dettenkofer et al 2011.)

Under the Health Care Act (1326/2010), which entered into force in Finland on 1 May 2011, and its attendant Decree, “The provision of health care shall be based on evidence and recognised treatment and operational practices. The health care provided shall be of high quality, safe, and appropriately organised.” It is also important for health care students to recognise the various microbial pathogens, identify the mechanisms of infection and their spreading, and know how to prevent the spread of infections before beginning an internship at a health care facility. They should also understand and internalise their responsibility to prevent infections, with regard to the patient, themselves and other staff. Once graduating and entering the workforce, they will provide guidance to new students, serving as an example to them. (Snow et al 2006, Ward 2010, Ward 2012.)

At the Turku University of Applied Sciences' (TUAS) Faculty of Health Care, students learn about the prevention of infections in a variety of ways. By participating in expert-led research and development projects, students are able to experience working in the workplace, thus generating added value for development needs found there. In virtual studies, they are given an opportunity to study on a schedule that suits their needs, consulting teachers serving as mentors as well as sharing their expertise, questions and experiences with other students. By testing their abilities in the world of gaming, students can hone their independent study and assessment skills.

RESEARCH, DEVELOPMENT AND INNOVATION (RDI) PROJECTS AS A LEARNING ENVIRONMENT

A key component of instruction at a university of applied sciences is the continuous integration of theoretical knowledge and applied practice. As part of the mission stipulated in the Act (564/2009), regional development is realised, for example, in educational and business sector's RDI projects, which give students the opportunity to put their theoretical knowledge into practice, testing its functionality in real-world situations.

A key goal for RDI projects, concerning especially infection control and conducted together with various partners (von Schantz 2011, 2012), has been to develop a broad base of expertise needed in the prevention of health care-associated infections. From a student participation standpoint, thesis work-related to the subject at hand has played a central role. The end result comprehends surveys on the knowledge, skills and attitudes of different personnel groups, guidelines and recommendations aimed at various health care situations, or extensive literary surveys. Observations made in health care centres' waiting and reception rooms have got students to contemplate the efficacy of procedural guidelines, facilities and health care environments where infection is concerned. Literary surveys have promoted skills having to do with searching information and developed the assessment, critical use and practical application of research data. In the drafting of instructional leaflets, students learned how to assess their efficacy from a user standpoint.

In thesis seminars, students also familiarised themselves with the work done by their classmates, thus expanding their understanding of health care associated

infection and infection control at hand. Finished work is presented at the partner organization's training and development seminars, where the matter being examined can be reflected upon with personnel in the workplace as well as tried and tested in practical applications. Workplace representatives have also been given the latest research data and new ideas for developing their work and working approaches.

EXPERTISE SHARED ONLINE

The idea of shared expertise can also be easily put to use online. The student's own work process and results as well as their other learning experiences are available to all online, and familiarisation with them is encouraged in various ways. One student's analytical approach on a subject can be used by another student as a resource. Indeed, virtual studies has proven to be a method that allows for flexible scheduling and the immediate exchange of high-quality information. It also promotes student independence and responsibility, and meets the student's own needs as well as those of the workplace more flexibly. Adult students in particular appreciate independent study and information retrieval, considering alternative approaches an integral part of learning. (Bryce et al. 2008, Chang et al. 2008.) In recent years, making use of the Internet in infection prevention studies and refresher training has been studied throughout the world among both students and working professionals in health care (Atack & Luke 2008, Reime et al. 2008, Alemagno et al. 2010, Ward 2010, Millar 2011, O'Neill et al 2011, Ward 2012.)

At TUAS, the Infection control in the health care field study unit (3 cr) is multidisciplinary and comprised of material on asepsis and microbiology. Classes are held in small groups, with teachers acting as mentors. The info-session held at the beginning of the study unit familiarises students with virtual study as well as the study unit goals, content, work and grading. Students reflect on their own learning and work in a journal kept for the duration of the study unit.

During the orientation week, held before the actual study unit begins, students get to know the other participants and the virtual learning platform. Students act within the platform in prescribed roles. The Initiator opens and oversees the discussion. The Summariser makes a summary of the discussion both during the theme and at its end, in accordance with the prescribed procedure.

Evaluators provide feedback on student work and the achievement of learning targets. The Spy visits other groups in the discussion area and brings new perspectives to their own group's discussion. Teachers serve as expert-mentors in their respective fields of expertise in a variety of themes.

The infection prevention section is divided into three theme areas: 1) Asepsis and hand hygiene, 2) Pathogens and health care-associated infection and 3) Applicable legislation and recommendations and a safe health care environment and safety protocols. Students are given learning targets, work approaches and discussion aids (e.g. video, virtual lectures or patient cases) for each theme as well as literary references. Each theme is worked on for 1–2 weeks.

In the Asepsis and hand hygiene theme, the goal is to examine the key concepts of asepsis. Two videos and two virtual lectures on hand hygiene (10 minutes each) are used as discussion aids. One video shows several clearly incorrect ways to wash the hands, while the other shows how to properly disinfect the hands in accordance with recommendations. The aim of the theme-related workshop (2 hours) is to gain a familiarity with the methods of proper hand hygiene using video and hands-on activity. During the second week of the theme, students examine the challenges related to infection prevention and hand hygiene encountered in a health care environment. Videos showing various environments (such as imaging units, laboratories or dental care units) and various treatment procedures (e.g. blood pressure measurement, oral examinations, intravenous cannulation) serve as the basis for instruction.

The Pathogens and health care-associated infection theme addresses the fundamentals of microbiology: concepts, microbial groups and transmission routes. Topical articles and a virtual lecture (10 minutes) related to the theme are used as aids for the group discussion. The goal is for the students to examine microbial properties, particularly with regard to transmission and virulence. Theme workshops examine microbes from different perspectives in the *Seikkaile ja opi mikrobimaailmassa* (“Live and Learn in the World of Microbes”) instructional game (see below).

In the Health care environment and safety protocols theme, the discussion is based on three different contagious disease cases. The group chooses two of these for group discussion. In the workshop (2 hours), students learn about instrument care as part of infection prevention.

After each theme, students are given an opportunity to test their own knowledge in self-assessment tasks (approx. 40 claims/theme). Upon completing the task, the student receives the correct answer and a combined score. The tasks can be done multiple times, with the goal being to get at least 75% of the claims correct. The students can use the tasks to monitor their own learning progress and prepare for tests. Self-assessment tasks activate and guide online discussions, because they are introduced at around the halfway point of the theme.

Student knowledge is assessed based on online discussion and the final assignment. Mentors assess student performance based on the content of messages in the virtual discussion area. The questions on the final virtual assignment are multiple choices, randomly assigned to the students from an “assignment databank”. Depending on their choice, students can complete the final assignment on-line at home or at TUAS. At the end of the study unit, students are paired up to make an impactful, educational poster on the theme Good infection prevention practices in the health care field. Students can choose the desired subject and target group.

The e-learning study unit was developed in 2008 (Ojala, von Schantz & Tuominen 2008, Ojala et al 2008). Based on feedback and teacher experiences, the study unit has been developed and revised to its present form. As a rule, students consider the learning environment to be clear and intuitive, but they have felt that the instructions given should be enhanced and clarified. Most of the students have felt that the theme content was diverse, interesting and met the learning needs of the health care students. Some students have found some things redundant and oral hygienist students felt that some themes placed too great an emphasis on the sanitary perspective. The recommended source material has been considered sufficient, topical and user-friendly, and the connection between source material and themes has been found to be good. Students have been further satisfied by the fact that the source material has been available both online and in book form. Some students have wanted more assistance from teachers on how to use the source material, while others would have preferred greater independence in finding materials. Students have enjoyed the theme workshops and would like to see more of them.

A command of information technology, networking and lifelong learning as well as the meaning of teamwork are emphasised in the skill challenges facing future employees. In virtual studies, the development of information and

communications technology skills and learning of professional core content can be combined in a natural way. It is also possible to further develop skills in using the internet when the students have already entered the workforce and want to refresh their expertise regardless of the hours and place of work.

GAMES ENCOURAGE INDEPENDENT STUDY

The most of nursing students are kinaesthetic learners, preferring active approach to education. Active learning strategies can increase students learning and satisfaction. (Boctor 2012.) One of the biggest challenges that teachers face is capturing the interest of students. Gaming could be one way to stimulate student's interest. Gaming offers many advantages over more traditional teaching methods. Gaming also has potential to improve health professionals' performance through improving their knowledge, skills and attitude (Akl et al. 2008).

Seikkaile ja opi mikrobimaailmassa – mikrobot ja tautien torjunta (“Live and Learn in the World of Microbes – Microbes and Disease Prevention”) (Ojala, von Schantz & Tuominen 2010) is a new and different way of learning about hygiene, contagious diseases and microbes. The materials include an e-textbook, a CD-ROM with the game *Typpi vs. Mikrobot* (“Typpi vs. Microbes”) and a user's guide for both the teacher and students.

The goal of the learning materials is to provide information, in an alternative way, on hygiene in daily life as well as infections and how to prevent them in various environments. The diverse materials can be used in degree programmes and to maintain and test professional qualifications in different fields. The textbook and the game can be used together or separately.

The e-textbook looks at microbes as essential to the proper functioning of the human body, but also as pathogens. Methods of disease prevention and personal hygiene as well as infection risks and their minimisation in various environments are also discussed.

The theory content in the e-textbook is comprised of nine chapters:

- Microbe
- Normal human microbial ecology

- Immune system
- Infection and routes of transmission
- Infection prevention
- General information on infection symptoms and treatment
- Infection prevention at different ages
- Infection prevention in different environments
- Tips for travellers.

The e-textbook does not need to be used in chapter order – users can choose the most appropriate subject as learning content for a given time. Summary tables and illustrations assist in learning. Direct links to credible websites and source references for obtaining additional information are also made available.

The Tyyppe vs. Mikrobot game allows students to test and improve their theory skills by following Tyyppe's adventures at home, work and school as well as in his free time. The game is divided into several mini-games of varying levels. In each mini-game, the player must earn a certain score to move on to the next game. Once the player has won a mini-game, they may decide whether to play again or move on. When all the mini-games have been won, the player may choose any mini-game they desire at any time when the game is played again. When the game is over, the students receive feedback on their skills and, if desired, may return to repeat the related theory sections. The game content varies, with one game containing material from the various chapters of the theory section. Winning the most difficult mini-game may require the students to refer not only to the theory section of the e-textbook, but also to external sources.

The scores earned by players in individual games are saved on the computer. When launching the game, players are asked to enter their name, which allows the system to check whether they have played the game before and what level they have achieved. Game statistics are kept on individual computers only. Teachers may ask players to print their top scores after the game, thus making it easy to chart individual student progress, even if the game is played on a different computer. The game can be used for learning new things or testing progress.

Seikkaile ja opi mikrobimaailmassa is a fun, new way to learn about microbes, infection prevention and hygiene. The learning materials allow for both independent study and teacher instruction. Learning is easy to follow, and playing adds variety to conventional study. Students see the game as a different and enjoyable yet challenging way to learn. The game challenges the student – while some of the mini-games are easy, others require a wide range of knowledge. Some students do not like the fast pace and time limits of the game, while others do.

SUMMARY

The prevention of health care-associated infections is an essential part of patient safety, and improving it is a global challenge in health care. At the Turku University of Applied Sciences, the aim is to develop further health care students' expertise in infection control by providing them with diverse learning opportunities. This article describes learning approaches in RDI projects and in online study units, and learning through games. The most important starting point is that teaching and learning are based on research findings, which are applied to practice by utilising innovation pedagogy, TUAS' strategic approach to learning and teaching.

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TRIPARTITE MODEL IN MASTER'S DEGREE PROGRAMME – CASE I0POINTS

Pia Ahonen

The Finnish higher education system has been developed as a dual system, which means different missions, degrees and titles. It consists of two complementary sectors: polytechnics (later also universities of applied sciences) and universities. According to the Ministry of Education and Culture (2013) “The mission of universities is to conduct scientific research and provide instruction and postgraduate education based on it. Polytechnics train professionals in response to labor market needs and conduct research and development (R&D) which supports instruction and promotes regional development in particular.” The role of universities of applied sciences in research and development will be enhanced by increasing their financing to develop their R&D activities (Ministry of Education 2007, Ministry of Education and Culture 2012).

A close connection with working life is one of the main emphases especially in universities of applied sciences. This goal can be achieved by focusing on increasing the collaboration between students and working life in the education, and by developing the contacts between research and development work and teaching. The needs and competence requirements of working life and the strengthening of research and development activities as a mission of applied sciences have guided the choice of study methods in master's degree programmes. It can be noticed that during the past ten years, the interaction between higher education institutions and working life has been substantially strengthened. To connect R&D projects with the studies as a whole, but especially to master's theses, was one of the most important innovations in regard to the master's degree studies. (Ahonen & Syrjälä 2006, Ahonen 2007, Ahonen & Nurminen 2009, Ahonen 2011). Since 2005, master's degree studies have been increasingly linked to R&D in the Faculty of Health Care at Turku University of Applied Sciences.

In this article, the development project called Upgrading maternity health clinics to 21st century (later 10Points Project) (Ahonen 2009, 2010, 2012, Ahonen & Tuominen 2012) is described as an example of implementation of a tripartite model. The tripartite model is valued as a good innovation of integrating master's degree studies and R&D projects.

A TRIPARTITE MODEL IMPLEMENTED IN A PROJECT-BASED LEARNING ENVIRONMENT

Premises for project modelling

Project modelling relating to master's theses to be implemented for master's degree programmes was launched with a continued trial period during 2002–2005. At that stage, the development of working-life-oriented final projects focused particularly on the development of the mentoring model (see Koivuniemi & Laaksonen-Heikkilä 2006, Laaksonen-Heikkilä et al. 2006). Based on the model implemented in the trial, the modelling of final projects and the related development work progressed via the Master's Degree in Health Care team after the second-cycle polytechnic degree was established in 2005. The evaluation of the model was connected with the implementation (e.g. Ahonen 2007, Ahonen & Nurminen 2009), and the information obtained will be used further in implementation development work.

The Turku University of Applied Sciences' pedagogical strategy, national core curriculum, Decree 423/2005 of the Statutes of Finland and ARENE's (the Rectors' Conference of Finnish Universities of Applied Sciences) guidelines for universities of applied sciences on joint and general competences (Arene 2006a) as well as degree programme-specific competences have, for their part, directed the formation of the curriculum of the second-cycle polytechnic degree (master's degree programmes) in health care. The planning of the development and management of master's degree programmes in health care and degree programme structures in clinical expertise drew on the internationally recommended competence and skills targets that have been defined in line with ECTS-compliant European, national and degree programme-specific levels (Arene 2006b). Studies leading to a second-cycle polytechnic degree include 1) advanced specialisation studies, 2) free-choice modules, and 3) master's thesis (the final project).

In the curriculums, the targets and content of master's thesis are based on the text of Decree 423/16 June 2005, according to which the objective is to develop and demonstrate the student's ability to apply research data and use selected methods in identifying and solving working life problems as well as competence for demanding independent specialist work. The content descriptions of the curriculum state the following:

- The master's thesis (final project) shall be a project that will develop working life practices and lasts throughout the entire education.
- The development project shall have a subject that has relevance from the perspective of working life and, at best, develop working life practices.
- Master's thesis shall be implemented as a project planned in co-operation with working life, and it shall be approached appropriately through applied research methods.
- The prerequisite is knowledge of the knowledge base of the student's own development area and the most current research information in the field in question.
- The contents of other modules shall support the creation of the theoretical foundation of master's thesis (final project) as well as competence in project and applied research.
- The master's thesis module incorporates the planning, practical implementation and publishing in an appropriate way.
- A written maturity test in the field of master's thesis is a requirement of the degree and will demonstrate the student's knowledge in the field and proficiency in the Finnish or Swedish language (Degree 423/2005).

Project as a learning environment

Many of the master's theses in the master's degree programmes in Health Care have been and are implemented in research and development projects, such as SARAKE (Regional Partnership in the Promotion of Health and Well-being in the Archipelago and Coastal Areas). The SARAKE project

was a project learning environment for modelling and assessing the tripartite model presented here. Students starting their studies in the master's degree programme in Health Promotion in autumn 2005 were among the first recruited on a permanent basis for the project upon its launch. In addition, adult students complementing their vocational degree with a polytechnic degree were recruited in subprojects to implement their own theses, so that a master's degree student acted as the project manager for the new project group. During the project, evidence was collected on the usability of the model. The project as a learning environment has been presented in the *Kuntakumppanuudella terveyttä edistämään – SARAKE-hanke aikuisopiskelijoiden oppimisympäristönä* (Municipal Partnership Promoting Health – the SARAKE project as a Learning Environment for Adult Students) publication (Ahonen 2007). The SARAKE project has been the first R&D project carried out as a tripartite model integrating master's degree studies and an R&D project. It has been an example for all the other R&D projects carried out in the context of master's degree studies in the Faculty of Health Care. The planning of the 10Points Project started at the same time, during 2006, using the same model as was innovated in the SARAKE project.

A DESCRIPTION OF A TRIPARTITE MODEL

A tripartite model means a way of producing master's theses as working life related projects. A tripartite model forms from cooperation of student, mentor and teacher tutor. The student acts as a project manager and is guided by a mentor, teacher tutor and parallel supervisor. The supporting project group and authoritative steering group are constituted for the project. The model acts as an expertise improving learning environment; it supports not only the development of each individual student but also increases innovations in social networks and in different organizations and communities.

The implementation of the master's thesis in the degree programme has been modelled as a project, which outlines a project learning environment according to a tripartite model (also development project or final project). Students are supported in their participation in research and development projects of both the Turku University of Applied Sciences and their own background organizations or other partners. The development project is implemented as a venture planned in collaboration with working life, and it is approached

purposefully with the methods of applied research. The development project is a tool for developing working life practices and for creating new innovations and competence. (Figure 1).

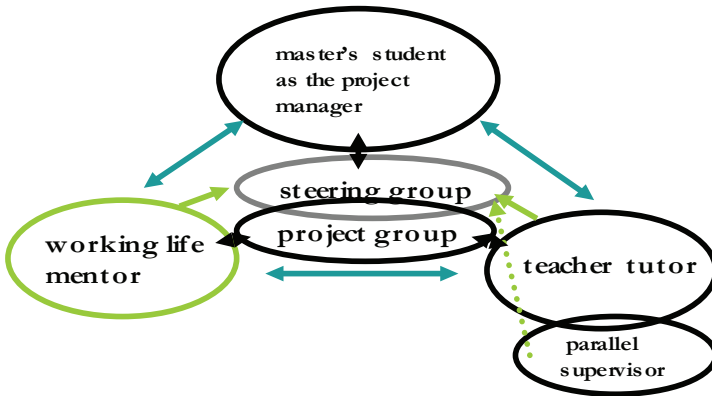


FIGURE 1. *The tripartite model of master's thesis for implementing development projects in the final project process of master's degree students.*

The roles of the different actors in the tripartite model in a project learning environment can be described shortly as follows:

Role of the Master's degree student in a development project:

- The student shall study skills in project leadership and management acting as a project manager (see Decree 423/2005).
- The student shall be responsible for launching of the project/ subproject (for example in research and development projects), creation and operations of the project organization, drafting of the project plan, project progress and change management in the project as well as development results achieved.
- The student is responsible for actively seeking guidance from the tutor teacher and working life mentor.

Role of the tutor teacher in the development project:

- To have responsibility for supervising the student's master's thesis (final project).
- To create a close steering team with the student and working life mentor throughout the development project process, thus co-operating with working life.
- To participate in the work of the steering group (project group).
- To co-operate actively with the parallel supervisor during the significant stages of the final project.
- To assess the final/development project together with the parallel supervisor.

Role of the parallel supervisor in the development project:

- To act as the second supervisor and participate in designated seminars.
- His or her supervisory focus lies in the methodical guidance on applied research.
- To participate, as far as possible, in the work of the steering group (relating to research and development projects).
- To assess the development project implemented as master's thesis as its second assessor.

Role of the working life mentor in the development project:

- To work in the background organisation enabling the development project to proceed and to provide emotional support.
- To participate in the two-day training event aimed at mentors of master's degree students.
- To create a close steering team with the student and tutor teacher throughout the development project process.

- Optionally, to act as a substance specialist as well.
- To participate in the assessment of the process of the development project (separate assessment form).

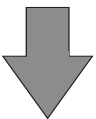
Project steering group and project group:

- The background organization and the student (and the tutor teacher) will jointly plan and nominate members to the steering group.
- The project group will consist of active actors in the background organization of the project (or subprojects in a research and development project).
- To guide, facilitate and supervise the process of the development project.

The description of the final project implementation model incorporates a functional and structural system that includes the stages of the master's thesis (final project) module from the idea stage to the reporting stage and the maturity test.

Project tray

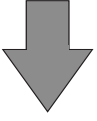
The process regarding final projects is initiated at the beginning of the studies with a "project tray" aimed at students, starting the recruitment process of students to the projects. On-going or starting R&D projects, strategic projects presented by partner organizations, and development needs presented by students concerning their own background organization will be assembled on the project tray.



Forming tutor groups

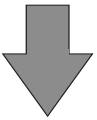
Students will be divided into tutor groups according to the development concepts, so that the topics form one cohesive entity as well as possible, around a specific project for example. Consequently, the tutor groups are assigned a

tutor teacher who will provide guidance as the master's thesis (final project) tutor throughout the entire process. The tutor groups will form a peer group that becomes integral for the progress of the final project in its various stages.



Project management and forming a project organization

The objective is to provide the student with project management skills within the scope of the studies (see Decree 423/2005). The student will begin forming a project organization after the idea for the development project has become crystallised. The project organization for implementing the development project will be formed in co-operation with the background organization that is the focus of the development project. The stage will include acquiring a working life mentor and drawing the related mentoring and final project commissioning agreements as well as forming the project and steering groups for the project.



Phased progress of the process regarding final projects

The process of the development project progresses from the idea stage to the preliminary review stage and from the project plan stage to the reporting stage. Careful and phased project and research planning will assist in providing a systematic and target-oriented approach to the final project process. The various planning phases make use of the following planning documents: 1) written mentoring agreement and final project commissioning agreement, 2) written instructions for the different stages of the final project process, 3) evaluation criteria and 4) statement by the working life representative about the final project.

THE 10POINTS PROJECT AS AN INNOVATIVE LEARNING ENVIRONMENT

Background and aims

The 10Points Project is based on Finnish maternity clinic work guiding recommendations, policy programmes and the results of previous studies. (STM 2004, 2007, 2008, STAKES 2008a, 2008b, Public Health Law Regulation 380/2009. Moreover, according with the project participants and partners' experience, the project was justifiable for upgrading local maternity care services to enable them to respond to the needs of the 21st century child bearing families. (Ahonen 2009, 2010, 2012, Ahonen & Tuominen 2012).

In Finland, free health care clinic services for the all child bearing and the child rearing families have been mandated by law from 1944. Later, by the Public Health Act (1972), maternity and well-baby clinics incorporated themselves into newly established municipal primary health centres. Maternity clinic action is intended to ensure the expectant mother, father, fetus, newborn, and the whole family the best possible health. Municipalities are responsible for their residents' the health advice and health checks. Contraceptive counselling and pregnant women's and families' health care clinic services are included in the municipalities' responsibilities. (Public Health Act 1972/66, change: 928/2005).

The new Public Health Law Regulation (380/2009) requires a group-formed family training provided with a multi-professional way of working and home visits for families who are awaiting their first child. Furthermore, extensive health checks are required to ensure the health and welfare of the whole family. Finnish maternity and well-baby clinic services are also guided by government via several recommendations and policy programmes. (Ministry of Social Affairs and Health (STM) 2004, 2007, National Research and Development Centre for Welfare and Health (STAKES) 1999).

A nationwide report by STAKES (2008) clarified that the maternity and well-baby health clinic practices vary from one side to another in Finland. Moreover, the scarcity of resources was clearly perceived. According to the report, several proposals for development were founded. There is a need to strengthen planning and management of the maternity and well-baby clinics and to harmonise these services both locally and nationally. The infrastructure and staff resources of these clinics should be developed so that customers

receive the need-based services according the recommendations, on an equal base and regardless of the area of residence. That requires more intensively multi-professional co-operation with public health nurses (PHN), general practitioners and other special experts, e.g. welfare workers, physiotherapists and psychologists. Similarly, several national studies have indicated an existing need for the more family centred, supporting and individualised maternity and well-baby clinic services (Bondas 2002, Viljamaa 2003, Häggman-Laitila 2003, Tammentie et al. 2009).

The idea of the 10Points Project was based on the clearly perceived need to improve and harmonise services of maternity health clinics in the district of Southwest Finland, and especially in Turku Health Center. The project was launched in 2007. The coordinator in charge was the Faculty of Health Care at the Turku University of Applied Sciences. The primary objectives of the project were threefold: 1) to create improved health and welfare promoting methods for the maternity care system in the district of Southwest Finland, 2) to reinforce continuity between different maternity health care clinics/units in the primary care and in the special health care in the district of Southwest Finland and 3) to upgrade structures of the maternity care services in the district of Southwest Finland. Furthermore, a major goal was also to create an innovative learning environment for the master's degree students (and bachelor's degree students). In conclusion, the most important task of the whole project was to widely promote health and welfare of the child bearing families in the area in co-ordination with maternity care professionals as well as lectures and the students of the Turku University of Applied Sciences.

Implementation and multi-professional co-operation

The 10Points Project has based all of its improvements and development work on evidence based knowledge. Regional development in maternity care is founded on the wide implementation of the outcomes of several subprojects, produced by the master's and bachelor's degree students. The final projects of the master's degree students have been independent subprojects of the overall 10Points Project. The results of the theses of the bachelor's degree students have been used for the benefit of subprojects' development targets. Altogether in the overall project eight master's theses (final projects), 29 bachelor's theses and 14 individual development tasks have been completed. Two doctoral theses have been connected to the project. The results confirm the importance

of development of organizational characteristics of maternity health services (e.g. Tuominen, Kaljonen, Ahonen & Rautava 2012).

During the 10Points Project new networks have arisen, and multi-professional co-operation has got started in a new future oriented way – especially between primary health care and special health care in the field of maternity care in Southwest Finland. Particularly in relation to family training has the project provided an innovative foundation for multi-professional co-operation between maternity and child health clinics, the Turku and Kaarina Evangelical Lutheran Parish Union, the Evangelical Lutheran Parish of Naantali and the Mannerheim League for Child Welfare. The procedure of the 10Points Project is condensed into Figure 2 below.

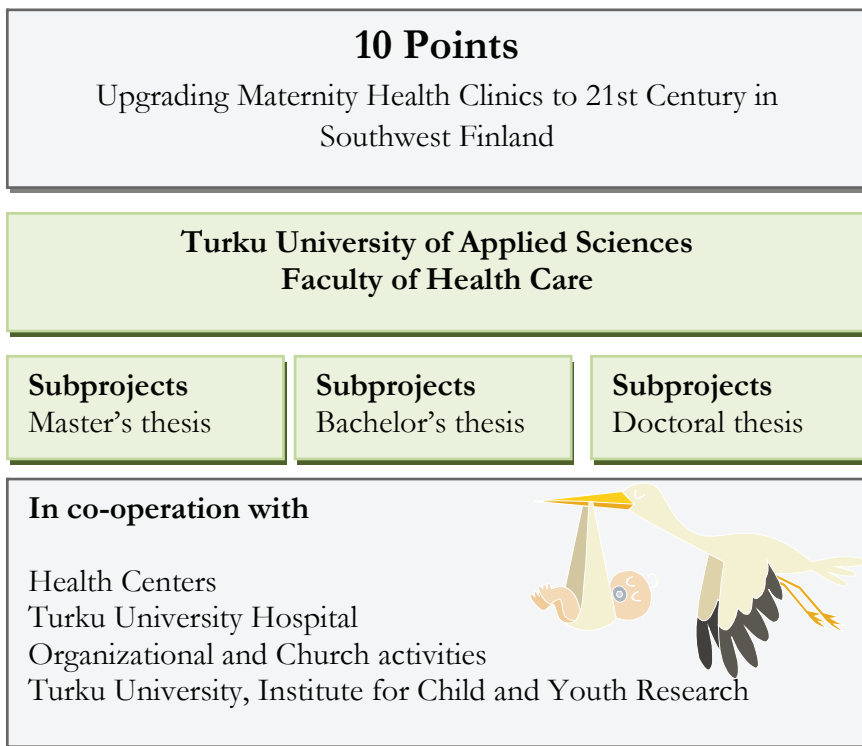


FIGURE 2. *Composition of the 10Points Project.*

In the 10Points Project one of the most prominent subprojects has been Ready for the parenthood subproject. In that subproject, the focus was to innovate and improve, together with the health care workers, a multi-professional model of family training in Turku. The completed and evaluated model has been presented in the article by Tuominen & Ahonen 2012. Many of the results of the bachelor's theses helped to achieve important outcomes of the subproject. In this context, one can point out for example the following:

- mothers' expectations about maternity clinic services in Southwest Finland
- home visits made by public health nurses of maternity clinic of Turku
- website for the maternity clinics – point of view fathers and mothers-to-be
- compilation of statistic of the visits to the maternity clinic
- co-operation with primary maternity clinics and hospital maternity out-patients clinic
- methods for the screening of the alcohol abuse on maternity clinics
- promoting mental health at maternity clinics
- analysis of content and experiences of the first antenatal visit of primigravida.

More information about the overall project and subprojects as well as all master's theses and bachelor's theses can be found at <http://kymppihanke.turkuamk.fi> (in Finnish) and the theses themselves at <http://www.theseus.fi> (abstracts in English).

The development projects of the master's degree students

The master's degree students were recruited in the 10Points Project at the beginning of their master's degree studies (see the stages of the tripartite model). In accordance with the tripartite model, an experienced mentor from working life and a tutor teacher from the Turku University of Applied Sciences were nominated for every student. The objects of the development

and the project topics of each master's theses were discussed and resolved in co-ordination with mentors, tutor teachers and students guided by the overall 10Points Project manager. Furthermore, each subproject of 10Points Project had its own steering group and project group. The members of each group consisted of multi-professional health care workers such as public health nurses and midwives, doctors, head nurses etc. All master's degree students were acting as project leaders/managers of their own development project according to the tripartite model.

The topics of the students' development projects focused on several interests. Some were remodeling of the antenatal training or family training in Turku, Naantali and Laitila. In addition, there were development projects focused on creating a local guideline called Care and service chain for pregnant families with intoxicant abuse (http://hoitoreitit.vsshp.fi/html/paihdeperhe_ptp.htm?userid=hoitoreitit&passwd=reitit08); Please stop! (www.lopujo.fi), an intervention study on nausea and vomiting of pregnancy; multi-professional teamwork in early stages of the family formation; developing the operational model of promoting sexual health and virtual birth training including a DVD for the Hospital District of Southwest Finland. The outcomes of each subproject of the 10Points Project have been remarkable. In Table 1, the main outcomes are being presented.

TABLE 1. *List of the main outcomes.*

Master's thesis (final projects)	Method for applied research	Outcomes of the development project
Tuominen, M. 2009. Ready for parenthood – Developing project for the family training in the social and health centre of Turku.	Theme interview for the PHNs (N=8), Evaluating of the material packages (N=6)	Renewed, multiprofessional model of the antenatal and postnatal family training
Mäenpää, M. 2009. Health and welfare for the families in the health centre of Laitila.	Questionnaire for the parents (N=101)	Improved health and welfare promoting model of the maternity health services
Nummela, R. 2010. Towards motherhood and fatherhood using multidisciplinary and peer support – developing extensive family coaching in Naantali maternity care services.	Theme interview (N=10), interventions	A new family coaching model for Naantali maternity care services was created as a multidisciplinary collaboration and enhancing peer support activity.

Salakari, M. 2010. Under the same roof – multi-professional teamwork in early stages of the family formation.	Questionnaire for the PHNs (N= 50)	Multi-professional model for the maternity and child health clinics in Turku
Petäjä, H. 2010. Developing the operational model of promoting sexual health.	The Sexuality Attitudes and Beliefs Survey for the gynaecological nurses (N=49)	New model of promoting sexual health for the Department of Gynaecology at Turku University Hospital.
Ojanto, A. Expecting a child to a family with drug and alcohol problems – pathway in the area of Hospital District of Southwest Finland.	Theme interview (N=7)	Care and Service Chain for pregnant families with intoxicant abuse
Gabrielsson, I-M. VIRVA – virtual birth training.	Narrative frame stories written by the midwives (N=20)	Virtual birth training including DVD for the Hospital District of Southwest Finland
Nurmi, M. Please stop! An intervention study on nausea and vomiting of pregnancy.	Questionnaire for mothers (N=171) and for PHN's (N=13)	E.g. evidence based websites and public gatherings focused to nausea and vomiting of pregnancy

CONCLUSIONS

The 10Points Project finished officially about one year ago. However, it is nice to see how development and research is still continuing in this field of interest. Implementation of many of the outcomes is still on-going. The 10Points Project has led people from different organizations together. Multi-professional actors from different organizations have learned how to work together in a future oriented way to discover new innovations. Master's degree students have found new challenges either during their studies or later in their career – thanks to all the contacts they have got during their master's degree studies using the tripartite model. Some of them have interests in continuing research and some have started their advanced practices by continuing their development projects by implementing the results created thus far. Mentors from working life have given good feedback as well. Mutual understanding and learning has been enhanced during the co-operation.

The outcomes of the 10Points Project (e.g. the family training model) can be globally implemented by adjusting new innovations and products for new cultures. The next step has already been taken – Fall into Family R&D project will take place in international environments. The project is still at an early stage, challenging to work further and harder for the benefit of pregnant mothers, fathers and their new born babies.

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INTERNATIONALISING LEARNING ENVIRONMENTS

Mikko Saarikoski & Heini Toivonen

INTERNATIONAL CO-OPERATION PROJECT PROMOTING LIFELONG LEARNING

Empowering the Professionalization of Nurses through Mentorship is a 3-year project funded by European Commission Lifelong Learning Programme and co-ordinated by the Turku University of Applied Sciences (2010–2013). The working name of the project, EmpNURS, is an abbreviation of the project's English title (<http://www.empnurs.eu>). The project focuses on health care education co-operation with the workplace. Its purpose is to develop student mentorship protocols in four new EU member states: Lithuania (LT), Hungary (HU), Romania (RO) and the Czech Republic (CZ). In addition to these countries, the network also includes institutions of higher education in older EU member states: one in England, one in Holland and one in Finland. Their role is to coach new EU member states participating in the project in their efforts to reform their own health care education. In many Eastern European countries, nursing education is at a point in its overall development where, for example, Finland was in the 1960s (Järvinen 1993, Kalnins et al. 2001, Richards 2005).

The thematic, idea-level objective of the EmpNURS project is to empower the professionalisation of nursing in new EU member states and standardise European nursing education, particularly where internships are concerned. The project is comprised of both research and development sections. The project examines mentorship in four new EU member states and develops good operating practices for mentorship. The goal is an operating model that would be viable in as many EU member states as possible, regardless of the developmental level of the educational system. The project brings together health care students and clinical nurse specialists in local sub-projects as well as a lecturer from a local university and an educational liaison from a local

teaching hospital to serve as a working pair in overseeing the realisation of the sub-project.

INTERNATIONAL DEVELOPMENT PROJECT AS A LEARNING ENVIRONMENT

The project also serves as a learning environment for health care students, primarily in the project's developmental target countries, but also, to some extent, at the project co-ordinator, the Turku University of Applied Sciences. In Lithuania, Romania, the Czech Republic and Hungary, nursing students participate in the project's local pilots, whose objective is to both train and engage in development work based on an individualised mentorship model. Training is provided for students and mentors in each country. During the implementation phase, students work in co-operation with their assigned mentors for one training period, after which both the students and mentors assess and further develop the process. In Finland, a master's degree student from a university of applied sciences joined the EmpNURS programme immediately upon attending the project's introductory seminar, which was held in Turku in November 2010. The master's degree student has participated in the project primarily through the Optima Learning Environment as well as by attending a workshop held in Kaunas, Lithuania. Her master's thesis (Lauas 2012) examined the clinical practise of international exchange students. As there was a great deal of related expertise in the project network, an effort was made to link the development assignment to the project network in order to make its results available to the entire network.

Students participating in local sub-projects also attended workshops in Kaunas (LT), Brno (CZ) and Iași (RO). Due to language restrictions, meetings were often divided into smaller groups, where the meeting content was translated into the local language. With only a few exceptions, it was not possible to engage in one-on-one discussions. If the students' language skills were sufficient, they would serve as guides on hospital visits and also participated in feedback discussions held at the end of workshops. The meetings offered interesting discussions, which effectively illustrated the country-specific differences in educational solutions. According to the

project plan, students will be used in the project assessment phase when analysing the feedback gathered in the pilots.

The original project plan contained a section with the purpose of bringing together students participating in pilots held in the four target countries (CZ, HU, LT and RO) using a social media application (such as a closed and moderated group on Facebook). This plan was shelved for three reasons. The most important one was that the pilots were held in all four countries at different times, thus making the sharing of experiences difficult with a more than six-month delay between pilots. Another factor was the lack of sufficient skills in a common language, as there were major differences in the English skills of the countries involved, despite the fact that the participants were university students. The third factor contributing to the rejection of social media involved the strong prejudices against the use of social media held by the lecturers participating in the network. The final factor that resulted in shelving the use of social media is clearly cultural in nature, revealing both generational and international differences of opinion (cf. Mimirinis & Bhattacharya 2007, Hamilton 2010).

WHAT IS KNOWN ABOUT MENTORSHIP PRACTICES IN PILOT COUNTRIES?

The research section of EmpNURS utilises operating models and results from a research project conducted in nine old EU member states in 2007–2009 (Warne et al. 2010). The project tested a clinical learning environment and supervision quality scale developed in Finland (Saarikoski et al. 2008) in an extensive operating environment. At that time, Eastern European countries were not included in the research set, because their educational practices still differed greatly from those of long-standing EU member states, which already enjoy a partial standardisation of educational practices. In many Eastern European countries, nursing education had previously been primarily the responsibility of physicians, but today new, developing EU member states are building a nursing education system based on nursing science.

In the first phase of the EmpNURS project, mentorship practices in the project's four pilot countries (CZ, HU, LT and RO) were charted using the above-mentioned CLES+T quality scale and other methods. The study

involved a total of 418 nursing students, who had just completed their internships, with country-specific mentorship practices. At that time, major differences in the practices of new EU member states were found. Nearly 25% of the nursing students had a physician serve as their mentor during the internship. This is perhaps the biggest difference between old and new EU member states, where nursing is in its nascency as a health care profession in its own right. In an initial survey of the pilot countries participating in the project, nearly 90% of the students felt, however, that it would be important for the internship mentor to represent nursing, the student's future profession. Another significant difference in internships can be seen in mentoring models. In new EU member states, mentoring is primarily done in groups (approx. 70% of the participating students). This involves one mentor providing guidance to several students at the same time.

WHAT HAS BEEN LEARNED IN THE PROJECT THUS FAR?

Nursing education in Lithuania, Romania, the Czech Republic and Hungary remains very traditional. It is usually implemented under the ministry in charge of health affairs and provided in immediate proximity to a teaching hospital, whereas in countries like Finland the role of nursing education is much more independent, operating under the Ministry of Education and Culture. The use of modern information technologies in mentorship processes is also less prevalent in developing countries. Less than 10% of students in the pilot countries regularly use email, a virtual learning environment or mobile devices in maintaining contact when communicating with the teacher in charge of the study unit. The equivalent figure in some old EU member states may be over 40%.

Students have produced feedback materials on their participation in the mentorship pilots. The experiences have been extremely positive and students would like to see this operating model become an established part of their internships. In the feedback given, students described their mentorship relationship as a unique experience, which clarified the professional role of nursing in a completely new way, and also provided the opportunity to reflect on one's own internship experiences and feelings with an experienced mentor.

Countries participating in the EmpNURS project have signed an ERASMUS exchange agreement with nearly all of their project partners. The first exchanges have already been made, with positive experiences being reported. Co-operation with somewhat “unconventional” exchange partners has proven to be a fruitful experience. In many countries, an entirely new ERASMUS partner provided a new and positive experience, during which it became necessary to get rid of one’s own preconceptions on countries that were previously “uncharted territory”. In new EU member states, the lack of material wealth is still very real, but in practical co-operation those shortcomings are compensated many times over by a positive attitude and genuine hospitality. New EU member states have offered an interesting experience, where students have felt like a welcome guest for whom there was a real desire to provide as diverse a learning experience as possible in a new type of international environment.

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NURSING DOCUMENTATION – NOT ONLY DOCUMENTATION, BUT PLANNING AND DECISION- MAKING

Marjo Salmela

The purpose of this article is to make a critical assessment of the link between the quality of nursing and its documentation as well as the significance of the nursing process in this context. As a rule, the term documentation is used when discussing the documentation of nursing work, which primarily tends to suggest the documentation of nursing care already given. Nursing documentation also comprehends the drafting of care plans, which often play only a secondary role in documentation. It is the care plan, however, that should serve as the guidepost for all other documentation. Drafting a care plan and keeping it up to date for the entire duration of patient care is of much greater importance than entering events in a log. This is nursing decision-making.

CARE PLAN AND NATIONAL NURSING DOCUMENTATION MODEL

A typical trait of electronic documentation is that it occurs within the scope of a ready-made framework and its attendant terminology. This means a standardisation of how information is presented, thus increasing its usability (Saranto & Sonninen 2007). At the international level, there are numerous nursing classifications in use based on nursing process phases: NANDA-I (North American Nursing Diagnosis Association International), NIC (Nursing Interventions Classification) and NOC (Nursing Outcomes Classification) (Müller-Staub, Lavin, Needham & van Achterberg 2006). Documentation by

nursing process phases means that nursing care must be planned in advance and assessed according to its compliance with the plan.

Drafting care plans has been a familiar aspect of health care all over the world since the 1980s, when use of the nursing process model made its breakthrough (Saranto & Sonninen 2007). Since that time, care plans have been drafted with varying degrees of diligence in Finland and abroad. The thinking process for nursing training content has provided a clearly-defined structure for the past couple of decades. Its aim has been to teach students how to see nursing as a professional, planned function, and not just performing a range of unrelated tasks. The process model is still used in training, even though its emphasis and operating approaches probably differ from school to school. In internships and the workplace, students probably document nursing primarily by following the documentation practices used at the workplace at a given time.

However, there have been many practical problems with documentation by process phases, even though its theoretical underpinnings are indeed logical. The correct use of a nursing process model in Finnish health care organizations should be questioned. This is indirectly shown by studies focusing on documentation in a specific area of nursing. A study conducted by Häyrynen, Lammintakanen and Saranto (2010) focused on nursing documentation as a whole. According to the study's findings, care plans are incomplete and use of the nursing process varied across specialist fields. Shortcomings in the specification of nursing needs, target setting and documenting planned interventions as well as patient observation records in relation to nursing needs were found. Not all process phases were necessarily documented.

Finland adopted a uniform, systematic documentation model created as part of a national documentation development project in 2005–2008 and based on the Finnish Care Classification (FinCC). Systematic documentation means that decision-making in nursing takes place by nursing process phases (Saranto & Sonninen 2007). The new documentation model has made the importance of the nursing process even more obligatory, as it requires use of both the nursing process and FinCC in all patient records systems. FinCC comprehends the Finnish nursing need classification (SHTaL), Finnish nursing function classification (SHToL) and the Finnish nursing outcome classification (SHTuL). Actual documentation is done as free-form text under each classification. (HoiData project 2007–2009.) One of the goals of the model is to transfer nationally standardised nursing data to a national health

archive, which requires a prescribed form of documentation, or structurality (Act on the Electronic Processing of Client Data in Social and Health Care 159/2007). With a prescribed, standardised documentation protocol, the ease of documentation and the functionality and usability of the documentation model become crucial to efficient and fluent documentation (Nykänen & Junttila 2012). Under the Act on the Electronic Processing of Customer Data in Social Welfare and Health Care Services (1227/2010), health care service providers should join national data system services and adopt the national documentation model by 2014.

Despite a wide range of development work done, the national documentation model has not been firmly established in Finland, or enjoyed a uniform consensus. It is perceived as being problematic, particularly from a physician's perspective, but also by nursing staff. Consequently, at the end of 2010 the Ministry of Social Affairs and Health and the National Institute for Health and Welfare launched a follow-up documentation development project, with the goal of making proposals and procedural recommendations to improve the usability of nursing classifications and their patient records systems as well as the multidisciplinary utilisation of records. The proposals and procedural recommendations focused on simplification of the national documentation model, standardisation of nursing reports and training in nursing documentation. (Nykänen & Junttila 2012.)

QUALITY OF DOCUMENTATION – QUALITY OF CARE

The present state of documentation must be assessed in order to determine what needs to be improved. The quality of documentation should not, however, be an end in itself, but rather improvements in documentation should lead to an improvement in the quality of care. Certain research-based evidence of the connections between documentation and implemented care are not yet available, however (Müller-Staub, Needham, Odenbreit, Lavin & van Achterberg 2007; Urquhart, Currell, Grant & Hardiker 2009; De Marinis et al. 2010; Kelley, Brandon & Docherty 2011). Nevertheless, it may be assumed that the quality of documentation and the quality of care bear a connection to each other. This can be defended on the basis that when documentation is carried out in line with the stages defined in nursing decision-making, care is systematic, target-oriented and subject to evaluation.

Improvement in the quality of documentation can improve the quality of care, also because the presence of structures in the documentation platform helps provide nursing staff with new information on the content of their work. Thus, the comprehensiveness and individual-oriented nature of care can be more effectively realised in line with the structures of the documentation platform. (Kärkkäinen 2005.)

Electronic documentation in standard format promotes the continuity and safety of care (Thoroddsen, Ehnfors & Ehrenberg 2010), in addition to intensifying the quality and utilisation potential of the knowledge obtained (Tanttu, Sonninen & Ensio 2007). Good care depends decisively on accessibility to high-quality information (Saranto & Kinnunen 2009). It may be assumed that if relevant, accurate information is obtained about the condition of a patient, the potential to make good decisions with regard to his/her treatment improves (Hellesö & Ruland 2001). Correspondingly, if the documentation of nursing is not exact and comprehensive enough, the patient's right to receive good care remains unfulfilled (Kärkkäinen 2005). Inaccurate documentation represents an apparent risk to the continuity of care, as well as to the safety of the patient (Voutilainen, Isola & Muurinen 2004). Documentation based on the nursing process appears to increase the precision and corresponding character of information with the actual circumstances. The accuracy of documentation is especially important in nursing fields where the patients are not necessarily able to express themselves. (Ehrenberg & Ehnfors 2001.) The lack of accuracy is connected with the fact that documentation is not carried out in a uniform, systematic manner but in accordance with each nurse's own point of view and experience (Cheevakasemsook, Chapman, Francis & Davies 2006). The requirement for accuracy and a systematic approach in nursing documentation has not been fully understood from a nursing process standpoint, which is why the value of documentation as a key source of information has not been internalised (Jefferies, Johnson & Griffiths 2010).

Despite the probable connections between the quality of documentation and quality of care, no certain conclusions can be drawn regarding the quality of care provided, as documented information does not always provide an accurate picture of that care (Kärkkäinen 2005; De Marinis et al. 2010; Wang, Hailey & Yu 2011). Nursing documentation does not contain anything close to all the activities that nurses actually do (De Marinis et al. 2010). On the other hand, even if all the tasks performed have been documented, this still would

not indicate whether the right things have been done. The care implemented and the documentation completed should also correspond to each other for purely legal reasons (Saranto & Sonninen 2007).

The quality of care is also believed to improve thanks to seamless care chains, which necessitate a uniform and solid documentation system (Wang et al. 2011; Nykänen & Junttila 2012). The overall picture of the patient's situation is better discerned if all professional groups document into the same structure directed by the care plan, thereby utilising important documentation entries from the perspective of overall care (Kärkkäinen 2005). This requires keeping all care plans up to date, which normally remains non-fulfilled, however (Kärkkäinen, Bondas & Eriksson 2004; Voutilainen et al. 2004). In this case, obtaining an overall picture becomes considerably more difficult (Kivelä, Anttila & Kukkola 2011). The national documentation model for nursing is not, at present, regarded as something that provides a sufficient overall picture of the patient's situation or support for multidisciplinary care (Nykänen, Kaipio & Kuusisto 2012).

Information about the care implemented is also needed for the management of nursing, so that the nursing director can make decisions significant from the perspective of the care of patients. A uniform documentation structure is needed to ensure that data can be located, utilised and compared. (Tanttu et al. 2007; Kivelä et al. 2011.) A Swedish study (Törnvall & Wilhelmsson 2008) showed that only some nursing directors used documentation entries to assess and develop the quality of care, since the documentation was incomplete, confusing and of minor significance, particularly with regard to information on nursing. In addition to standard, output-based statistics, nursing directors nevertheless need indicators describing the nature of nursing care, such as information on patient care needs, the care provided, and outcomes of care. This type of information can be used by nursing supervisors to intercompare various operating units and discuss matters to be jointly developed. However, if the information documented does not correspond with the actions taken, nursing directors will not be able to draw reliable conclusions in order to develop nursing. Insufficient documentation can never provide the necessary basis for controlling the quality of care or the effective use of resources (Annersten Gershter, Pilhammar & Alm Roijer 2011).

In a professional sense, the nursing decision-making process should be made visible, which is something nurses are not usually accustomed to. They make decisions continuously in their work, even if they do not necessarily

acknowledge it (Lauri & Salanterä 2002). Structured documentation serves as a template for this by allowing nurses to document information in a way that fully reveals the decision-making process. Nursing documentation and drafting care plans is integral to nursing, not a supplementary part of it. It is a tool for professional decision-making and is not simply a matter of taking notes on the work performed. (Sonninen & Ikonen 2007.) Professional nursing places an emphasis on the patient much in the same way as the patient's loved ones do. This requires an understanding of the core of nursing in each nurse's work, which is based on an overall picture of the patient's health. In this case, documentation should also be comprehensive. An overall picture comprehends more than just the problems related to the patient's care. Nurses should pay attention not only to problems but also to the factors which promote the patient's health. (Kärkkäinen 2005.) Frequently however, only the reason why the patient has sought care is entered in the care plan in the section specifying the need for care (Häyrinen et al. 2010), and in nursing documentation, the performance of disjointed functions receives emphasis – which makes nursing look task-centred and narrow in scope (Kärkkäinen 2005). This raises the question as to whether or not actual nursing is task-centred and narrow in scope, or is it only a question of the information entered not being completely relevant to the activity implemented.

Additionally, we may ask whether there is any patient input visible in the documentation done by professional nurses. Studies show that nursing documentation focuses primarily on the patient's bio-physiological needs and interventions, with documentation of the overall picture and the patient's own input being insufficient or non-existent (Kärkkäinen ym. 2004, Voutilainen et al. 2004, Lee 2005, Irving et al. 2006, Thoroddsen & Ehnfors 2007, Törnvall, Wahren & Wilhelmsson 2007, Laitinen, Kaunonen & Åstedt-Kurki 2010, Scherb et al. 2011; Wang et al. 2011). Nurses seem to feel uncertain about documenting patient-related phenomena that are outside the sphere of medical terminology (Irving et al. 2006, De Marinis et al. 2010). With reference to specifying the need for care, many studies have shown that patients' experiences with their problems or nurses' knowledge of these problems do not fully correspond with the actual documentation made by nurses (Ehrenberg & Ehnfors 2001, Kärkkäinen 2005). In logical terms, this means that nurses are not fulfilling all the nursing interventions that the problems experienced by the patient would otherwise require. Or it may be the case where the nurses are aware of the patient's views and take them into consideration when providing care, but do not document them.

QUALITY OF DOCUMENTATION EXAMINED IN INTERNATIONAL STUDIES

Based on the previous section, it can be concluded that the good quality of documentation can improve the quality of care. Accurate, comprehensive and systematic documentation improves the continuity and safety of care, enables truly seamless care chains and guides into taking individual needs and experiences of a patient into consideration. For nursing management, good documentation offers a reliable tool for assessing and developing nursing care.

There is a great deal of research data across the globe on the quality of documentation that shows, even at the international level, that documentation is not always complete and that it varies in quality. In electronic documentation systems, the essential elements of nursing have remained rather fragmented. Documentation research itself has not been sufficiently precise, either. There is a lack of validated auditing instruments and research frameworks have not been methodologically reliable. (Saranto & Kinnunen 2009.)

There are numerous shortcomings in documentation especially in connection to nursing process phases (Cheevakasemsook et al. 2006, Törnvall et al. 2007, Annersten Gershater et al. 2010, Wang et al. 2011). Studies show that nursing documentation is not systematically linked to the care plan. Nursing needs or care-related problems are defined, but the plans addressing them and nursing assessment are, in many ways, lacking or non-existent. Nurses prefer to document individual items chronologically rather than by process phases (Gjevjon & Hellesø 2010, Paans, Sermeus, Nieweg & van der Schans 2010). Assessment, as with documentation in general, is more about monitoring and describing the condition of the patient than based on nursing diagnoses (Paans et al. 2010). Nursing diagnoses, interventions and outcomes are not linked to one another (Paans et al. 2010, Scherb et al. 2011). In these cases, documentation cannot be regarded as being done in accordance with the nursing process, even if the phase headings on an electronic documentation platform would be. Especially in studies conducted by Müller-Staub et al. (2008a and b), an effort was made to determine the logical common denominator of nursing process phases, which is the core of systematic documentation.

Setting targets is one of the least documented nursing process phases (Lee 2005, Törnvall et al. 2007). The documentation of targets is hindered, in part, by the fact that they are generally not yet available in a standardised

form (Thoroddsen & Ehnfors 2007). If they are indeed drafted, they are often mechanical in form, remaining the same every day (Kärkkäinen & Eriksson 2005). Likewise, assessments are usually insufficiently documented (Dahm & Wadensten 2008). This is the natural consequence of not setting targets, as assessments should be target-oriented. Nurses have characterised the documentation of assessments as laborious and a meaningless waste of time (Lee 2005). The majority of documentation still involves writing daily observations on the patient's condition and any nursing tasks performed (Törnvall et al. 2007). This, again, is nothing new, as these issues have been documented throughout the entire history of caring for patients.

In addition to this, the care plan and daily documentation do not always correspond with one another. They each have a life of their own. This is the result of, for example, care plans not always being up to date. In other words, a care nursing plan is not be changed when the condition or needs of the patient have changed. (Thoroddsen & Ehnfors 2007.) Updating these plans, with their continuous assessments, is considered too time-consuming (Törnvall & Wilhelmsson 2008). If care plans are not up to date, it is completely understandable that nurses will not use them actively as a tool to assist them in performing their daily tasks. In their article, Gjevjon and Hellesø (2010) consider whether the nursing process is, as a rule, a viable frame of reference for nursing documentation. Depending on various situations and operating environments, nursing is unpredictable and involves sudden changes in circumstances. Consequently, it is not always possible to plan care in advance. Nursing documentation would require a more flexible structure (Gjevjo & Hellesø 2010, Paans et al. 2010).

In a Dutch study (Michel-Verkerken 2012), nurses assessed the quality of information obtained from a nursing information system. The study showed that they had a major need for information on matters concerning patient care and the overall picture, but did not consider care plans to be especially necessary sources of information. They did not trust the care plans, wanting to check their backgrounds themselves instead, which was then thought to take too much time away from patient care. The researcher proposes modifying the information system so that the care plan would serve as the primary source of information for nurses and, through it, the entire nursing process would begin to function more effectively. A prerequisite for strengthening the position of the care plan is, however, that nurses must learn to trust the plan and the information in it. The situation is the same in Finland – care plans

are ignored as a guidepost for other documentation, because they cannot be trusted. Gaining trust would require that the plans are comprehensively prepared and constantly updated.

DEVELOPING DOCUMENTATION

The expertise associated with nursing documentation involves nurses making progress in their work, thinking processes and documentation, maintaining a firm grasp of a systematic approach, and supporting colleagues in doing the same. Nurses still need training in the use of care plans and documentation according to the process (Cheevakasemsook et al. 2006, Dahm & Wadensten 2008, Häyrynen et al. 2010). Documentation is a common denominator among work units, not only within each unit but also between different work units and organizations. If the staff is not fully and jointly committed to a uniform documentation protocol, the system will not work. Each work unit must agree upon the common rules of documentation, as documentation always depends on the specific nature of the unit. A joint decision must be made as to how the general structure of the national documentation model will be most favourably applied in one's own work units. If a work unit finds a shared, clearly-defined view and mutual understanding of documentation by each process phase, documentation will no longer need to be considered a constant hindrance and cause of frustration, as it is currently shown to be in studies (Martikainen et al. 2012, Nykänen et al. 2012).

Numerous documentation development projects, which demonstrate their usefulness in improving the quality of documentation, have been conducted all over the world (Darmer et al. 2006, Thoroddsen & Ehnfors 2007, Müller-Staub et al. 2007, 2008b, Ammenwerth et al. 2011). The projects are often time-consuming and their management requires a strong grasp and key personnel devoted to the task at hand. Having each work unit independently develop their own documentation might be a more effective approach than organization-wide projects, because this makes the development project feel more close to one's heart.

In training, more attention should be given to documentation according to the nursing process (Häyrynen et al. 2010). It is a given that regional health care organizations and educational institutions will not be able to establish a uniform culture of documentation, unless the same aspects of documentation

are emphasised in all organizations. In many cases, documentation problems involve issues in the usability of electronic patient information systems (Martikainen et al. 2012, Nykänen et al. 2012). Although there are indeed a great many issues, efforts are constantly being made to make these systems more user-friendly. However, one cannot simply wait for progress to be made in these developments; the personnel in each work unit must start to develop documentation by themselves. Only then will it be possible to say that the work unit is truly an expert organization in terms of documentation – a unit, where high-quality documentation leads to care which is better in quality than before.

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