Academic tutoring - a quality improvement project

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**Abstract**

**Background:** At a specialist intensive care nursing education located at a University college in the middle of Sweden there was a strong drive among the faculty to develop their ability to support specialist nursing student’s in their academic development as well as in their academic writing to improve the overall quality of the master thesis written at the University College.

**Design:** In this study a quality improvement design, the Plan, DO, Study, Act (PDSA) cycle were applied.

**Setting:** where a University College in the middle of Sweden and the participants were two graduating classes of specialist nursing students.

The Result showed that quality improvement and students satisfaction in the master thesis writing course can be reached with minor changes in the pedagogical approach during the course not requiring new resources.

**Keywords:** Academic writing, Post-graduate, Tutoring

**Introduction**

At a specialist intensive care nursing education located at a University college in the middle of Sweden there was a strong drive among the faculty to develop the teachers’ tutoring ability. And as thus their ability to support specialist nursing student’s in their academic development as well as in their academic writing to improve the overall quality of the master thesis written at the University College.

**Background**

To supervise theses writing at different levels of the nursing education and specially in the postgraduate nursing
education where the student writes a master thesis, requires both a good and thorough knowledge in nursing as a subject, but also in pedagogy. Something that not all students have the privilege to meet. The tutors often are occupied with other work related tasks as well as being more or less knowledgeable in different scientific approaches. Also the tutors are often handed their students before the scientific approach in their thesis writing are decided. This affects the tutors’ possibility to tutor each student with the pedagogy they find the most beneficial. It also affects the students’ possibilities to write a master thesis that reaches the learning goals negatively.

Nursing perspective

Nursing as a scientific field has an extensive history and one of the first pioneers linked to the start of nursing research, is Florence Nightingale. She showed that nurses need scientific knowledge and knowledge about concepts to be able to perform nursing care at its best, meaning when we are looking for patterns and contexts of relevance to the patient and the caregiver in a structured and analytic way we can improve nursing care and save patients’ lives. Later on nursing researchers has shown that by applying a theory and a method that fits the level and design of the research to be carried out (kocaba and Steiner, 2000) the research adopt a particular structure, and the concepts used becomes the tools to operate with. This allows us to speak of theoretical concepts and analytical concepts depending on whether the concepts are derived from a theory or constructed on the basis of empirical data. If we assume that the theory helps us to structure the research then we are able to, through or with help of the theories, find out and use concepts that captures and defines the investigated phenomena in its nature and describe how they are interpreted. The theoretical concepts are thus a potential explanatory model, offering us knowledge to understand the complexity in nursing care. Analytical concepts are more abstract. Diverse are the perspectives that are applied in nursing care, but they have a common core, care for another human being. To demonstrate concern about one, means, according to Benner et al., (1989) to be involved in what is meaningful to the person and understand which aspects that are important to the person from different perspectives. Nursing is associated with love, friendship, comfort and creates an understanding and distinguishes what is meaningful for a person.

In Sweden a reform called the higher education reform was carried out in 1977 (Hamrin et al., 2014) and through this reform, it became possible for nurses to develop networks with research in nursing. Which subsequently lead to the decision that advanced nursing students today writes a thesis at the master level. This change was decided in the 1993 reform of nursing care education, as a result of the higher education reform SFS 1992: 1434, SFS 1993: 100 (Hamrin et al., 2014).

Strengthen academic writing

To improve the quality of student performance in the thesis writing, the tutors’ expertise and tutoring capability requires development (Friberg and Dahlborg, 2013). Friberg and Dahlborg (2013) offers suggestions on how to improve students’ academic skills and academic writing. A prerequisite is that students learn how a scientific article is structured then it is easier for them to structure and write as such. Through other ways than the ordinary student-tutor situation during the thesis writing, students can be tutored to become more self-directed in their thesis writing. This way of arranging the pedagogical process the tutoring involves changing the content and structure in the tutoring situations and for example arrange weekly or monthly seminars or workshops for the students, the students can in this way increase their awareness of theoretical perspectives, such as the difference between qualitative and quantitative design and theoretical frameworks. Through these pedagogical methods the students realize that nursing research should be used to improve the care for the patient (Friberg and Dahlborg, 2013). To strengthen the students
in critical thinking and academic writing the tutoring and assessment throughout the education should support this learning and the tutor should adjust their own tutoring to the level they expect the thesis to reach (Kapborg and Berterö, 2002; Dysthe, 2002). Correlating students' critical thinking to clinical training and academic studies, thesis writing, debate, questioning, problem solving and small group activities can be beneficial to the development of critical thinking (Borglin and Fagerstrom, 2012). When the tutors increased their skills, such as increased ability to critique and give relevant assessment on the thesis writing, the satisfaction became greater. Monthly seminars to discuss challenges in the tutoring situation has been fruitful in strengthening the tutors in the tutoring role (Friberg and Dahlborg, 2013). If tutors become better at linking theory to the thesis writing, it can lead to a better guidance for students and increased satisfaction among teachers. To develop theoretical knowledge one should broaden the perspective and abandon the positivistic connection with the medical perspective that permeates nursing research, which focuses heavily on problem solving (Gimenez, 2011).

**Academic tutoring**

Students who have chosen to become registered nurses or nurses at an advanced level, have many times made an active choice to apply for a certain educational site. The reasons may vary, but to actively seek out an educational site can propose that the student is an active and conscious knowledge-seeking student. Seeking the pedagogical approach offered at the chosen site. Mann et al., (2011) has classified the different learning theories, from a constructivist perspective, he arranges the learning student in an individual and in a social axis. Learning can be seen as an individual and a collective endeavor, where the individual axle of learning includes theories of cognitive psychology (Shuell, 1986; Bruning et al., 1999), Surface and deep learning (Marton and Booth, 2000), reflective learning (Brockbank and McGill, 2007), self-directed learning (Garrison, 1997; Merriam, 2004) and transformational learning (Mezirow, 1991). On the social axis are theoretical perspectives, such as socio-cultural learning (Säljö, 2000). With an image of Mann et al., (2011) description of how the different learning theories relation can be understood, it may become easier to act as a tutor with a theoretical foundation underpinning the understanding of the phases a thesis student goes through. I as a tutor, from a constructivistic perspective, might be able to draw strength and knowledge in how I can meet my student as an individual, but also the students as a group during the tutoring situation. What knowledge the students bring with them into the tutoring situation is the starting point for the student's own learning and understanding (Bransford et al., 1999). All students comprise their own understanding, skills, attitudes and knowledge in the tutoring situation. To help the student advancing their knowledge from their point of departure until the end of their thesis writing might be very different depending on the student, the tutor, the group that is tutored and work together. The prior knowledge that the student comprised when they started the tutorial should become deepened and developed as new knowledge is integrated with their older knowledge.

**Tutorial situations and pedagogical underpinnings**

Several studies show that nursing students are insufficient prepared to write a thesis (Friberg and Dahlborg, 2013 Kapborg and Berterö, 2002 Borglin and Fagerstrom, 2012). Kapborg and Berterö (2002) argues that there are general problems such as poor spelling and grammar, as well as inadequate structure problems that requires attention from the academic writing in the tutorial situation. However, it is the tutors task to enable the students' knowledge transfer and integration from one context to another regardless of model or method used (McKeough et al., 2013). On the other hand, there is a lack of knowledge on the tutors' behalf of how to tutor to raise students' awareness and deepen their understanding of the outcome and meaning of the different scientific approaches, which would increase
the quality of the thesis writing in the students’ (Borglin and Fagerstrom, 2012). The tutorial situation is a pedagogical meeting between the student and the tutor, a meeting that may look very different depending on the participants and the context that is part of this meeting. The tutor is expected to, through knowledge and experience use different pedagogical methods to help students to operationalize and transfer their theoretical knowledge into another context, writing and discussing science (Gimenez, 2011). Kapborg and Berertö (2002) suggests that well written criteria can increase the quality of the thesis writing and give the tutors some guiding when tutoring and correcting thesis. To support this learning process it is advantageous with an integrated and supportive conceptual framework and a curriculum that clearly guides the student and tutor through the degree process (Hodges & Kuper., 2012).

The tutor also need to be the motivator in various ways through the writing process, it can reveal itself as coaching, guiding, encouraging, challenging, critically relate to the student's work, enable students to learn together, etc. (Gatfield., 2005; Pintrich., 2013). Nursing students say that writing the thesis is one of the most difficult moments in education (Borglin and Fagerstrom, 2012). It’s not just nursing students who finds it troublesome with the scientific writing, Philips and Pugh (2010) have shown that when doctoral students fail their studies depends on the student, the tutors or the learning environment that surrounds the student. There is no reason not to believe that this also applies to degree students at different levels of nursing education. It is therefore of great importance that we as tutor constantly challenge ourselves. It has been shown that good tutoring skills, good interpersonal relationship between student and tutors as well as adequate matching of the student's research question and the tutor’s expertise in this area to a greater extent resulted in higher student satisfaction and good progression in the students' thesis writing (Ives and Rowley., 2005). Although access to learning resources such as libraries, databases, lectures, study guides, other experts, seminars, etc., increase the student's ability to complete their thesis writing on a satisfactory level. Students also come from different cultures and with different needs which requires the faculty to continuously develop how learning and knowledge can be understood in different cultures and operationalized in different ways in a thesis (Caroll & Ryan., 2007). It requires that tutors constantly seek new knowledge and understanding of what it is to tutor and how it is to be a student in the tutorial situation.

**Ethical aspects in tutoring**

Being a tutor includes having a good knowledge of the different pedagogical methods and the various learning phases the students’ goes through during their thesis writing. It also means constant ethical decisions, some captured and decided upon in the situation at hand and some more reflected. Power is a perennial perspective. Being in a position as tutor means being in a power position as you are the one being professional and knowledgeable in the field. Power to support or hinder the student through the comments given about the student's work. How these views are expressed and clarified are of importance? Students have the power to decide for themselves what and how much of the proposed comments that they will allow to influence their continuing thesis writing. This can create conflicts or a well-functioning tutorial, seemingly without a ripple. Usually one might expect a certain tension to arise from time to time during the tutorials until completion of the thesis writing. To avoid excessive conflicts and disappointments, it is good to discuss what is expected of the tutor and student relationship from both perspectives, and how the students want their feedback from their tutor to draw the most benefit from it. Trying to adapt the feedback to the individual student who will be tutored is a good start. The tutoring role can be designed in a variety of ways with beneficial learning outcomes. One of the basic conditions to be a good tutor with the ability to tutor the student through a thesis writing process is to be flexible and knowledgeable as well as building a trusting and inclusive relationship with the student (Ives and Rowley., 2005). This is not the easiest from a pedagogical perspective. Sometimes the tutor is expected to be as flexible and accommodating through their tutoring that it will
jeopardize the structure of the tutoring as it becomes too fuzzy and the student will not benefit from the tutoring at all. As a tutor, you have the privilege to follow another person's learning. Someone that are there to strengthen their critical thinking and academic writing. In order to achieve this common goal, it requires an active discussion and interaction, an openness towards the individual student as well as the student is the entire program (Kapborg and Berterö, 2002; Dysthe, 2002).

Tutorial interaction

Brand Ford et al., (1999) highlights the importance of starting from the student's own interest and desire to learn. From this point of departure, the tutors have the responsibility to design the tutorial to support and challenge the student to reach the learning outcomes, based on the pedagogical model that seems fruitful (Dysthe, 2002). How students may benefit from the tutoring can shift through the thesis writings different phases as previously mentioned. Dysthe (2002) advocates a model that emphasizes the maturity and understanding through aware tutoring. This way of tutoring is intended to meet the students learning needs and support a deepened knowledge development, and different ways to gain new knowledge as well as foster independence. Säljö (2001) emphasizes the importance of having a dialogue with the tutor and the student to bring the student from the current level, to the next level of knowledge. A form of building knowledge in line with the student's readiness to embrace it. This way to support knowledge development also includes building an environment in which students can develop together with others. By returning to the article by Mann et al., (2011), the tutor can get support and help in the tutoring situation to understand where the student may need now and how their efforts can be directed to give the relevant feedback to the individual student in the tutoring situation. Tutors might end up in different roles of tutoring, which they need to be aware of. Another thing to be aware of is the degree of control or involvement in the student production of their thesis. As a tutor you might feel commuted between being too results oriented, process-oriented or providing tutoring in an ad hoc moment principle – what is needed right now. A mixture between them can be fruitful in many ways but mentioned above, an agreement and a plan should be jointly decided upon and continually be used to evaluate the thesis writing process. As a tutor, you should be open to the group's balance of power, dynamics and feedback to each other, how it is done and at what level it reaches. Which leads to the aim of the study: to increase the specialist nursing students scientific writing in the master thesis course.

Method

The method of this study rests upon a quality development strategy. It is often referred to as the Plan, DO, Study, Act (PDSA) cycle (Ogrinc, et al., 2012). The improvement method is often used when one wants to improve the quality in a process, such as thesis writing, and the data can be of both qualitative and quantitative origin. In this study the data were qualitative building on written evaluation of the thesis writing course. The time frame for the PDSA cycle ranged between January 2014 and June 2016. Since this is a quality improvement process no ethical permit is required in accordance with Swedish law and the Act on Ethical Review of Research Involving Humans (SFS 2003: 460) and the Personal Data Act (SFS 1998: 204).

Data collection and analysis

The PDSA cycle where followed according to the suggestions made in Ogrinc, et al., (2012). The cycle begins with the Plan step. This involves identifying a goal or purpose, formulating a theory, defining success metrics and putting
a plan into action. In this study we started with evaluating the master thesis writing course in a post graduate specialist nursing program at a University College, from the students' perspective. Previous students (N 20) in the master thesis writing course had been asked three questions upon completion of the course. They were asked:

1. What have you learned during the training that you think is the most meaningful to you?

2. What in the program has supported you in your learning best?

3. What changes in the program would have improved your ability to learn?

The amalgam of the answers yielded that the students had learnt the most from collaboration with each other outside the tutor situations, they found the structure to be unclear and hard to understand and follow. They wanted to have a clearer assessment template and a writing template to follow.

Next we evaluated the master thesis grading from the previous course and found that all had been graded a pass in a three graded scale (failed, pass, pass with distinction) upon completion. Also the assessment template was read with the question is it easy to understand and follow in mind. We also evaluated the specialist nursing program as a whole regarding academic writing, scientific discussions and literacy. Next it became important to clarify which changes that needed to be made and what measures that would be used to measure improvements in the students' thesis writing abilities. In accordance with the literature we decided to start the students' academic writing and scientific discussions right at the start in the following intensive care program. We also agreed upon asking the same three questions as a student satisfactory with the thesis writing and their learning through the course. We also decided that the grading of the thesis would yield as a quality mark of the scientific education provided since it is the same examiners assessing all master thesis.

These activities were followed by the Do step, in which the components of the plan were implemented. In this study we acted on the findings from the first step and started with academic writing and article reading as well as scientific discussions in the first course of the next intensive care program in accordance with suggestions made by (Friberg and Dahlborg, 2013). Then we clarified the criteria for theses writing and assessment, this to improve tutoring situations and to support the transfer and integration of the knowledge students are expected to acquire through science courses and during their thesis writing in the specialist nursing program as suggested by Kapborg and Berertö (2002) and Hodges and Kuper (2012).

It also required an active process of discussion of problematizing, discussing, motivating, in-depth understanding of the meaningful writing the student does in their thesis, etc. Which lead us to design the tutoring situations beginning with a discussion as suggested by Ives and Rowley, (2005) concerning the different phases of tutoring and thesis writing with the student, to clarify what most students undergo in frustration and learning on their way from start to a complete thesis. Being aware of the student perspective, how it is to feel that you are losing the grip on something unintelligible and the need to reach an understanding to continue to write your thesis might be a good starting point for a pedagogical meeting with the student. We also changed the way of tutoring from a more conventional way where tutor and students meet and discuss the student’s writing and corrections are suggested. To a more participatory and self-directed way. We planned for all students to work in a structured group with a thematically directed peer learning in the morning connected with a tutorial seminar held by two tutors, with different expertise in scientific methods, together in the afternoon. Each tutor was matched with a student according to what the student wanted to write their thesis about and what scientific approached they were going to use. If the tutor were an active researcher in the scientific approach chosen by the student the tutor and student were matched. The aim of the tutorial seminar is to follow up and deepening the scientific discussions that the students begun in their morning session, bringing up issues discussing and problematize them from different scientific approaches. This pedagogical
model allows the student to learn and process text and content in various ways. Both the individual cognitive need for knowledge and needs of the group are utilized. Through this kind of tutorial, we use what Mann et al., (2011) describes as the cognitive knowledge axel and the social knowledge axel. There is also space for reflection, which is very important in the continuing thesis writing.

Next come the Study step, where outcomes were monitored to test the validity of the plan for signs of progress and success, or to handle problems and areas for improvement. During the seminars the students and the tutors discussed the thesis writing and gave feedback and followed up on previous feedback, according to the plan discussed in the previous step. All students gave written peer feedback to each other in relation to the assessment template and according to what was agreed upon during the seminars. All students also had their own tutor to turn to if they needed to further discuss anything in relation to the thesis writing. During the seminars the tutors evaluated the progress of the student’s thesis writing in accordance with the assessment template.

The final step, the act step closes the cycle, integrating the learning generated by the entire process. In this study the last step contained a new evaluation of the students’ satisfaction with the thesis writing. The three questions asked in the later course were again asked the new students (N 18) upon completion of the course. The questions were:

1. What have you learned during the training that you think is the most meaningful to you?
2. What in the program has supported you in your learning best?
3. What changes in the program would have improved your ability to learn?

The amalgam of the questions gave at hand that the students felt that the most meaningful they had learned were to understand and evaluate scientific papers and understand the importance of being evidence based in their coming profession as specialist intensive care nurses. They thought that the student seminars where the most fruitful learning activities to understand and implement their new scientific knowledge. They felt they could ask their peers questions they thought the tutor would find odd. They also liked the tutor seminars as they clarified and deepened their understanding about different scientifically interpretations. However, they still wanted to have more workshops and hands on tutoring regarding the data analysis and ontological views. A review of the grading of the master thesis revealed that 13 students were graded pass, and five students were graded pass with distinction. The overall analyze gives that there has been a quality improvement in the thesis writing course and that the students feel more satisfied and also feels that they have learnt more in comparison to the former students'. Also the grading’s shows that the latter students were graded higher by the same examiners that graded previous courses. What also came out from the study is that our University College now has instructions to support tutors and students in this process, frames that proved beneficial for learning in accordance with Hodges and Kupers, (2002) conclusions.

What is next, these four steps will be repeated over and over again as part of a never-ending cycle of continual improvement. They will be used to adjust the goal, change methods or even reformulate a theory of learning in the thesis writing course.

**Discussion**

In this quality improvement work the improvement team has taken the change idea of pedagogical methods suggested in the literature and tested them in a real-world learning environment. The learning environment the tutors and the examiners involved in the quality improvement project are the same persons that were involved in the former master thesis writing course. This was a deliberate action to change as few conditions as possible and with
the allocated resources through pedagogical changes reach a higher quality in the completed master thesis as well as a greater student satisfaction. One can argue that starting a quality project raises the awareness of quality and tutoring which affects the outcome positively. It might be so, on the other hand it is a continuing ongoing discussion in an academic faculty how one can improve courses, oneself or other things that will increase the quality of the education as such.

Commuting between general and specific problem areas in the main area in relation to the intensive care context is a recurring theme in specialist education as a whole. It is not only associated with the degree course even though it may become evident in that course. As Dysthe (2002) pointed out it is about the alignment and maturing of scientific understanding during an education that makes the difference. In the later specialist nursing education we started already in the first course to integrate a scientific approach as a thread through the education based on the students' own activity regarding intensive care. The relationship with the scientific approach, the ethical approach and the social perspective is emphasized and different scientific methods are being studied and practiced through various workshops throughout the program. All learning activities are now based on the student's own need of what to learn (Bransford et al., 1999) and problematize in relation to the student's own learning needs. We also added the possibility for the students in the thesis writing course to meet and scientifically discuss their own thoughts about their thesis writing process with the researchers at the University College. Something that is highlighted as important by Ives and Rowley, (2005). It gives the student a possibility to discuss research, problems, design methods and analyzes with professional researchers and it opens up interesting scientific discussions related to practical hands on discussions as well as discussions about scientific writing. During the master thesis course we also changed the tutoring in accordance with Friberg and Dahlberg's (2013) suggestions to facilitate the students self-directed learning. We implemented student workshops, that is structured in such a way that students receive an agenda and referring to what part of the thesis that need to be worked through, before the tutorial. This pedagogical method is intended to support the student self-directed knowledge development during the thesis writing. It strengthens their ability to investigative approaches. A form of peer learning and learning collaborative are used, thus requiring the students to actively get involved and take responsibility for their own learning while they support their fellow students in their thesis writing. The students are in this way training scientific writing in order to apply and critically examine research within the intensive care field related to nursing as well as gaining an understanding of different paradigms in the field at the same time. The completed master thesis shows the students own knowledge and skills to develop and apply a scientific approach in relation to their own field which requires a critical approach to their own context. Something that we found had increased in the latter thesis writing course where the grading came out higher than in the former course. We aimed for the students through their entire specialist education, to develop an understanding of key issues and different perspectives that exist within the main field of nursing. When students work on different concepts and issues related to nursing they are encouraged to work from and relate to their own specialist area, intensive care. This implies that they have to acquire knowledge in a more general level in the main field and then deepen their knowledge and become specific in relation to the issues studied in the specific course within the program. We also clarified the assessment criteria's in accordance with Kapborg and Berertö (2002) suggestions. Which lead to a clearer view of what key abilities that should be assessed in different ways in the thesis. Scientific, social and ethical aspects, shown through implementation, argumentation and how they are linked to the intensive care context. Demarcation of and critical approach in the thesis writing shows insight into the possibilities and limitations the chosen scientific approach provides. Insight into the role of science in society and people's responsibility for how it is used is indicated by the relevance of project selection, discussion of implementation of the results and awareness of their own role in as specialist nurses in intensive care emerges.

However, there is always improvements to be made and one of the remaining key factors of continuing quality development is to have an ongoing discussion on how the faculty members can contribute to that each student reaches a good level of scientific knowledge and a critical approach towards research. How can every tutor in an
academic way, and as a tutor design, in this case the thesis writing courses to help the student achieve the learning outcomes and show that they can perform at the level required to pass the master's level.

Conclusions

It is possible to increase the quality of the students' academic writing and scientific knowledge with pedagogical changes. The education should embrace the scientific approach from day one and the tutor should start with the students' own interest and learning needs as a point of departure. Also an ongoing discussion and quality improvement strategy should be implemented as a base for continuing strategic improvement.

Take Home Messages

Notes On Contributors

Janet Mattsson, RN. PhD. Programme Director specialist nursing education, Intensive Care. Has a long experience as intensive care nurse as well as educator in specialist nursing education. Her interest lies in improving the outcome for students as well as patients.

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Appendices

Declarations

The author has declared that there are no conflicts of interest.

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