

Learning activities in a powerful learning environment in elderly care practice, contributing to nursing students' development of innovation competences

-A qualitative multiple case study-

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Introduction

In view of aging of society, nurses in the care for older people, have a crucial role in designing and implementing sustainable care innovations, that may increase quality of care and minimize costs (1-3). To fulfill this role, nurses should develop appropriate innovation competences (4-7). These competences consist of knowledge, skills and attitude (8), concerning organization and communication in care innovation (4-7). According to educational profiles, nurses should start with development of care innovation competences, during their vocational training. Still little attention in elderly care practice is given to the way nursing students develop these competences (9). During courses and related internships, nursing students experience few innovation challenges and learning experiences, coming from the ward (10,11). However, a challenging learning environment is essential to empower students' development of professional competences (8,12,13).

Powerful learning environments (PLE's), contributing to development of competences, have been developed over the last decades (8,14,15). Their characteristics are fully described in literature (12). PLE's offer realistic, complex problems, eliciting an active process of knowledge construction (8,12). This process consists of different phases wherein students first have to activate prior knowledge and have new knowledge demonstrated, before they will be able to apply and integrate new knowledge, skills and attitudes, in daily care (12). For this purpose different learning activities are needed, varying from asking questions, searching Evidence Based Knowledge (EBK), collaboration with team members, discussion and reflection in small groups (8,12,15). Several studies describe development, and use of an instrument to measure quality of a PLE for nursing students (16-20). However, these studies are mostly focused on hospital settings, and reflect students' perceptions only. Currently there's a lack of knowledge about PLE's in elderly care practice, and specifically about learning activities therein demonstrated.

Lecturers of nursing departments of Universities of Applied Sciences, and educational staff in care practice, currently realize PLE's in close cooperation (19,21). A new type of PLE in elderly care practice has been designed by integrating the concept of Practice Development (PD)(22)(23). The PD "bottom up" approach, supports teams of caregivers to reflect critically on care innovation, and work and learn actively together on care improvement. This will be conducive to the sustainability of it (22). The combination of PD and PLE is assumed to elicit bachelor nursing students' active construction of innovation competences. During internships in elderly care practice, students may practice the role of "practice development facilitator" (23). Participating in teams on a ward, students are confronted with complex innovation

challenges. They may learn to activate teams to discuss innovation questions, and jointly design improvement plans and perform improvement actions (23). Coaching by a lecturer in a school setting and preceptor on a ward in care practice, as well as the theoretical supply of PD techniques and strategies, will help students to grow in their facilitators role.

Problem statement

The growing process of learning is described as an active process in the concepts of PLE and PD. It should include a variety of learning activities like asking questions, searching for EBK, critical reflection, learning from dialogue and shared experiences with others. Learning activities are described in literature as contributing to nursing students' development of individual competences. However, literature does not offer explorations of learning activities created in PLE's in elderly care practice, contributing to the development of nursing students innovation competences.

Aims and research question

To know which learning activities are created and how they are performed in the newly designed PLE, by nursing students, their lecturer and preceptor, this empirical research was needed. It aims to capture the way students are enabled to develop their innovation competences in a PLE in elderly care practice, and to give direction to the way these PLE's may be improved.

This research focuses on the following question: Which learning activities, that may contribute to the development of student's innovation competences, are created and performed by students, lecturer, and preceptor in a PLE in elderly care practice?

Research design

A qualitative multiple case study design was conducted to explore the phenomenon of "learning activities" within the bounded system of PLE's (cases), and to provide adequate perspectives from various environments and persons (24,25). The Medical Ethics Committee judged that ethical permission did not have to be requested.

Setting

The setting of this research was determined by the bachelor minor course "Innovations in care", created as a PLE, by the Nursing Department of "Windesheim", Dutch University of Applied Sciences, in collaboration with regional care institutes. This PLE-setting consisted of two parts: 1) An individual practice part (representing one case), in which nursing students were faced with innovation challenges in elderly care, supervised by a preceptor of the care organization where they had the internship, 2) A shared educational part, where students

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had regularly courses and group progress-meetings with their lecturer in a school setting, or in an online environment (figure 1).

Sample

To provide an adequate view on the studied phenomenon (24,25), within the limited time-period of the minor (20 weeks), initially three cases were recruited. It was expected that in three cases sufficient in-depth data could be generated to achieve maximum data saturation as possible (26). Purposive and convenience sampling were combined. Only elderly care organizations, willing to create a PLE for students of the minor “Innovations in care”, based on the concept of PD, could be included. Account managers of Windesheim contacted and informed 5 organizations, using information, delivered by the researcher. This resulted in two cases, since other elderly care organizations were not responsive to recruiters’ questions, due to serious organizational problems. Subsequently other potential cases were recruited within the nursing educational variant “Distance Learning”. In this variant, students already are employed in a care setting, and meet their fellow students and lecturer of the minor almost exclusively at the online forum. This resulted in a third case in a home care team, which was also considered as elderly care setting. After permission of responsible managers was received, the researcher started to recruit students, preceptors and lecturers. Inclusion criterion was participation in the minor to start, or in the previous minor.

Procedure of data collection

Participants received written and verbal information, emphasizing researchers’ role as passive observer, not participating in daily care, or interfering students’ meetings with lecturers or preceptors. All participants were informed about the freedom to withdraw from the study at any moment, and got the assurance that data would be processed anonymously. Written consent of all individual participants was requested and obtained.

Data collection involved observations and interviews in three cases and the shared ‘scholar’ environment. During observations, the following topic list of learning activities, mentioned in the concepts of PLE and PD, was used to direct observations: Asking questions, searching for EBK, collaboration with the team, reflection and discussion. The same topic list was used in semi-structured interviews to explore experiences, perspectives and ideas about created and performed learning activities. The researcher also asked questions to explore knowledge and meanings about the required nursing innovation competences. All observations and interviews were audiotaped. Characteristics of cases about setting and chosen innovation themes, and personal information of participants about age, care experience, educational level and innovation experience were collected, to enable generation of meanings to other collected data, in a later stage of the study (table 1).

Data analysis

Verbatim transcripts of interviews and observations were analyzed in a combined deductive/inductive approach (27). In the deductive part, the interview and observation topics, were used as five headcodes to categorize meaningful text fragments (27). Within the five headcodes, subcodes were devised to categorize fragments, representing different perspectives of students, lecturers and preceptors (25,27,28).

In the inductive part, newly designed subcodes were given to remaining data. According to the adjusted version of the method of the Quagol (Quality Analysis Guide of Leuven) (28), data were “worked up from the ground” (27,29), and two new meaningful learning activities were found (two new headcodes).

Finally, all headcodes were studied on similarities or discrepancies, on case level first (24). Cross case analysis helped to explore and analyze repeating themes in three cases and the shared educational part (24,25,30), resulting in a thematic survey of findings (30).

Several measures ensured reliability and validity of this study. An audit trail documented reflective and methodological memo’s and research activities. Different data collection methods (method triangulation), confirming each other, enhanced reliability too (24,27,31), as well as the use of the NVIVO coding software (32).

In order to confirm validity of findings, research was done in different cases, with different students, lectures and preceptors (data triangulation), pursuing a maximum variation in data (29). Two researchers designed codes independently and came to consensus to pursuit rigor of the study (31). Validity of findings was also enhanced by examining and discussing code schemes and possible patterns (27), with members of the research group.

Results

Data were collected during the first 11 weeks (February - April 2014) of the minor “Innovations in care”. In each case a meeting was observed, where students discussed an innovation project with the team. The length of these meetings varied from 20 to 45 minutes. In students’ shared scholar environment, three group progress-meetings with the lecturer, during three hours, were observed. Eight semi-structured interviews of approximately one hour, were held with five students (two couples and one individual), three preceptors and two lecturers.

Results of data analysis are clustered in seven themes. Five themes were already known as learning activities in the theoretical concepts of PLE and PD: Asking questions, searching for EBK, participation in the team, discussion and reflection. Another two themes reflected other activities, also created in order to learn: “Exchanging support”, and “Putting learning experiences into broader context”. Illustrative quotes are presented per theme (table 2).

Asking questions

In observed progress-meetings with lecturers, all students asked many “how” questions about the required assignments, and the way they should act in the teams. Students expressed uncertainty and a need for confirmation. Lecturers’ reaction was to stimulate students to ask good questions to other students about acting as a facilitator and the chosen improvement theme, in order to learn actively with and from each other.

In interviews, preceptors also emphasized the importance of students’ asking deepening questions. Not only to get to know the ward well, but also to understand team members’ motives about the improvement theme. One preceptor (case 3) expressed firmly the need to ask questions, in order to get feedback. She described her role as “encouraging to ask questions”, as it was “the usual way” in her home-care team to learn.

Searching for Evidence Based Knowledge (EBK)

In interviews, students themselves hardly mentioned a need to search for EBK in literature. When they did, it concerned the required assignments. Lecturers explained that they opposed to that behaviour. Observations frequently demonstrated that: Lecturers stimulated students, to study pro-actively in literature, and to use acquired knowledge in handling the challenges in the facilitators role, like coping with resistance.

In the interviews, preceptors also emphasized students’ study task to acquire EBK of the chosen improvement theme, and the facilitators role as well. However, they admitted that the concept of PD was totally new for them too, and that it was opposite the way they had been used to act before, during an innovation project. Observations of team-meetings did not demonstrate preceptors as active “PD propagating” preceptors.

Participation in the team

Interviews and observations as well, expressed students’ struggle in exercising skills, needed to participate in the team as innovation facilitator. One student (case 3) struggled with “role confusion”, being a team employee and student as well. In case 1 and 2, students told they felt relative outsiders. They chose to participate in daily care practice only for a few days, declaring that this internship was not a care practice internship. They spent their time in a separate office, or even in a separate building (case1). Two students (case 2) mentioned their effort to participate in a very negative responding team. Not knowing what to expect, made them very uncertain. Students in case 1 mentioned experienced tension between manager’s top down approach, and the instructions given by their lecturer, based on the bottom up “PD” approach.

In interviews all preceptors mentioned they stimulated students, to communicate with the team about care innovation. Two of them (case 1 en 2) mentioned experienced tension

themselves, between what is achievable for the students, and what is desirable from their own position and function.

Interviews and observations demonstrated lecturers, recognizing students' struggles in team participation. They encouraged students to get to know the team and the daily work well, and discuss expectations, concerning students' role in the team.

Discussion

Observations in the school setting hardly showed discussions, although lecturers mentioned and stimulated discussion, as a powerful learning method for students to discover and express arguments. In interviews, lecturers and students as well, emphasized the need of "first feeling safe" in a group, before starting to practice discussion skills.

Observations of students' meetings with the team, demonstrated variety in students' capability to lead discussion. Students (case 2), who initially felt uncertain, seemed capable to elicit a pleasurable conversation, in which all members participated, resulting in useful starting points for an improvement plan concerning fall prevention. In case 1 however, students kept the meeting succinctly, under high pressure of limited time, not asking any deepening questions, or giving people opportunity to respond to each other. In case 3, the student had already achieved the minor, and she showed confidence and capability to lead a group discussion, concerning the evaluation of care innovation. This student, and her preceptor as well, explained that discussing was seen as useful and "normal" in their team. They emphasized the necessity of connecting well with the different educational levels in the team, during discussions, to gain mutual understanding. Observations demonstrated variety in degree of preceptors' participation in discussion. In case 1 the preceptor did not participate and only observed her students. In case 2 and 3 preceptors actively participated.

Reflection

During observed meetings, students only reflected on personal functioning, after lecturers' created incentives. All interviewed preceptors and lecturers emphasized their role in asking good deepening questions, in order to let students reflect critically on what they had done and achieved. In interviews however, lecturers expressed concern about preceptors' shortage of knowledge and experience in PD, making them not the sparring partner bachelor students needed. They based that on signals they got from students and preceptors.

Exchanging support

Interviews and observations demonstrated students, being content with the support of fellow students and lecturers. They offered and got support by sharing questions, doubts, and experiences with other students, and felt helped by lecturers' instructions and feedback.

Students' experiences with the support of preceptors varied: From making feel uncertain (case 2), to supportive (case 1), and very supportive (case 3).

In interviews, preceptors described their supporting tasks as: Thinking along with student, giving feedback and evaluating educational objectives. One preceptor (case 3) expressed the importance of making the student feel self-confident, by giving positive feedback, just in the beginning. Preceptors (case 1 and 2) however emphasized the autonomy of the students, and expected initiatives from the students in having contact and asking feedback. This is congruent with students' experiences.

All preceptors mentioned instruction, concerning students' facilitators role, as a lecturer task. Observations demonstrated lecturers, recognizing students' need for confirmation. They frequently gave instructions, examples and tips, concerning acting as a PD facilitator. They connected with the needs and experiences of the students, alternating between the role of instructor or coach. In interviews lecturers emphasized the importance of encouraging students by appointing what is going well. They frequently demonstrated that during school meetings. They also stimulated students to be assertive, and to organize support by preceptors and managers as well.

Putting learning experiences into broader context

Observations demonstrated students' uncertainty to act as a PD facilitator in the context of elderly care. Among students and to their lecturer they complained that it was "vague" and difficult, and that they did not know "what to do".

In interviews, all preceptors expressed their understanding of the impact of the complex context with a high work pressure, and diversity of educational levels, on students' development as a facilitator. Assessing the students, they took into account the status of the student as an upcoming professional.

Observations demonstrated lecturers, frequently referring to PD facilitators' attitude and skills, needed to act adequately in the context of care practice. They continuously connected the "real practice context" to the theoretical context of PD, by translating theoretical insights into practical advises, and vice versa. They encouraged students also to do that.

Discussion

This study explored the following learning activities in the newly designed Practice Development/Powerful learning Environment (PD/PLE): Asking questions, searching for evidence based knowledge, participation in the team, discussion, reflection, exchanging support and putting learning experiences into a broader context. During students' process of innovation competence development, students, preceptors and lecturers demonstrate these activities in various degrees. Students just perform them, or ask for support to do so.

Lecturers and preceptors predominantly create learning activities and stimulate and support students to perform them. Literature, concerning PLE's, confirms these learning activities as conditions, needed to start and succeed the powerful construction process of new competences (8,12,15).

In our study, lecturers aimed to increase students' self-confidence and tried to put students' efforts and experiences in the broader context of goals to be achieved, by giving support, tailored to individual needs. The degree of preceptors' support varied. Lecturers' and preceptors' supporting activities both are useful and necessary, seen in the light of Bandura's theory of self-efficacy (1977)(33). When students reflect uncertainty about beliefs in own ability to require school and practice assignments, and create negative outcome expectations, concerning the usefulness of their work, lecturers and preceptors should influence positively self-efficacy and outcome expectations, to reach educational goals (12).

Students of the fulltime educational variant kept struggling with their "outsiders status". To get to know the team well and build mutual respect, students should participate more in daily routines, practicing dialogues with team members of different educational level, and with different meanings. Literature concerning PD and PLE's, confirms the value of intensive participation and dialogue with the team, in order to learn performing adequately the innovation facilitators role (12,22,23,34).

Our study revealed a lack of demonstrating PD skills by preceptors in the current PLE's. Lecturers were aware of it, and therefore they spent a lot of time instructing facilitators' role in the school setting. However, role models in care practice are of great value in nursing students' competence development (13,35). Students' development of new competences is benefit from demonstration and practicing new knowledge and skills in the authentic learning environment of care, not only by instructing in scholar environments (8).

Reflection is one of the learning activities students seemed not to initiate themselves. Teams and preceptors varied in the way they stimulated students to ask questions and to discuss experiences. However, this "professional dialogue" is needed as a clear instrument, stimulating students' reflections on learning tasks (36). Lecturers in our study expressed concerns about levels of PD knowledge and experience among preceptors. Lecturers heard their students mentioning an experienced top-down innovation "culture". These concerns are confirmed by Duffy (2009)(37), who asserts that quality of reflective support, is influenced negatively by a lack of preceptors' theoretical knowledge, in comparison with the students they should guide in their reflection, and a lack of organizational support as well.

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This study has some limitations. Data were collected in the first phase of the minor, where students were still starting up, feeling sometimes uncertain. Preceptors participated in the minor for the first time, also searching for their new role. That might have influenced meanings and experiences negatively. Because of ethical consideration, observations of student-preceptor conversations were not initiated. These could have been resulted in a more thorough view of preceptors' behaviours in real practice.

In our study, only three cases were explored, which restricts generalizability of findings. Nevertheless, the richness of data, collected in different ways and places, from educational professionals' and students' perspectives as well, explored learning activities in the newly designed PD/PLE, focused on students' development of innovation competences. In similar PLE's these findings may be recognized and used.

Conclusion

A variety of learning activities, contributing to students' development of innovation competences, is demonstrated in the PD/PLE setting. Learning activities will be more powerful, when preceptors become strong PD role models in care practice, and when lecturers and preceptors are aware and use their positive influencing role on students' self-efficacy and study expectations. Intensifying students' participation in daily care will empower students' learning activities too.

Implications and recommendations

This study implicates intensive collaboration of lecturers and preceptors, consisting of discussing educational visions concerning the PD/PLE, and evaluating and learning from each other's experiences. Creators and facilitating managers of PD/PLE's in elderly care should join forces to explore needs in PD training, to design and perform a tailored training PD program for preceptors, and care managers as well.

Research in practice is indicated to explore its effectiveness on students' innovation competence development.

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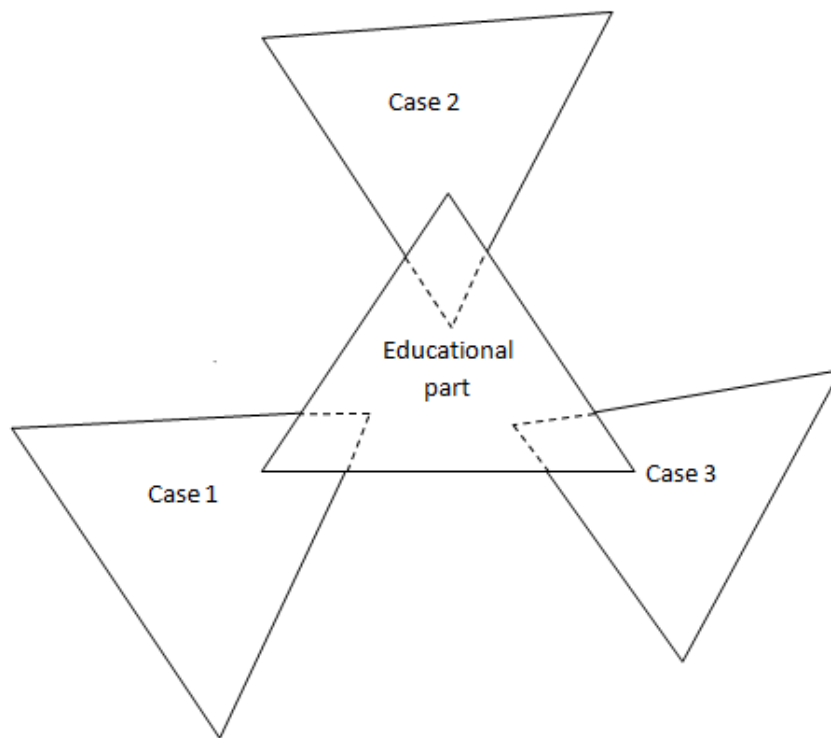


Figure 1: Three Powerful Learning Environments, representing three cases in elderly care practice, with a shared educational part at the Nursing Department of Nursing University of Applied Sciences

Table 1: Characteristics of cases and respondents

Case 1: Organization for elderly care, location A (Nursing home). Care innovation theme: <i>Prevention of infections</i>					
Respondents:	Age:	Nursing educational level:	Years of practice experience in care:	Care innovation experience*:	Other details:
- Student 1	20	- Aspirant bachelor	2 years	A	A couple of two students of the fulltime educational variant Preceptor is a specialized wound care nurse, not working all the time, on the ward of the students.
- Student 2	21	- Aspirant bachelor	2 years	A	
- Preceptor	45	- Bachelor degree	25 years	A/B/C	
Case 2: Organization for elderly care, location B (Nursing home). Care innovation theme: <i>Fall prevention</i>					
Respondents :	Age:	Nursing educational level:	Years of practice experience in care:	Experience in care innovation:	Other details:
- Student 1	21	- Aspirant bachelor	1 year	A	A couple of two students of the fulltime educational variant Preceptor works fulltime on the same ward as the students, having a coordinative function.
- Student 2	21	- Aspirant bachelor	1 year	A	
- Preceptor	36	- Bachelor degree	15 years	A/B/C	
Case 3: Organization for home care (Home care team). Care innovation theme: <i>Client planning</i>					
Respondents :	Age:	Nursing educational level:	Years of practice experience in care:	Experience in care innovation:	Other details:
- Student	31	- Aspirant bachelor	11 years	A/B/C	One student, of the educational variant "distance learning". Preceptor works fulltime as colleague in the team, and is team-coaching nurse.
- Preceptor	62	- Bachelor degree	>30 years	A/B	
Shared part in scholar environment: Theoretical Practice Development courses, group meetings or online meetings					
Respondents:	Age:	Educational level:	Years of practice experience in care:	Experience in care innovation:	Other details:
- Lecturer 1	45	- Master degree (health sciences), no nursing degree.	- 0 years	C/D	Lecturer in the fulltime educational variant
- Lecturer 2	27	- Nursing Bachelor Degree, Master degree (health sciences)	- 5 years	A/B	Lecturer in the "distance learning" variant

*Experience in care innovation: A=as student and participant, B=as employee and participant, C= as employee and initiator, D= as project-leader.

Table 2: Learning activities and illustrative quotes¹

<p>Asking Questions:</p> <p>Student: "I dared not always to ask ... because I thought that I should have known it. But then my preceptor said: you have to ask for feedback ... you're doing something and you doubt?Ask us!.....I see that my preceptor and her colleague are always sharing their thoughts and doubts....Yes, Now, I'm learning that too"</p> <p>Lecturer : "Students express this complexity [of the first phase of the minor] by starting to ask many practical questions....That's what first need to be solved....before they can go to work, and really start with the orientation on the practical environment they are placed in"..... "I Think it's inherent to students'That they check very straight in the beginning: What do I have to do to get a sufficient rating?"</p>
<p>Searching Evidence Based Knowledge:</p> <p>Lecturer: "...They just want to do something! Preferably on intuition....And then, at the end, when a document for the assignment must be written, they quickly study some literature....That is the pattern of students...and that is just what I want not!"</p> <p>Preceptor: "I must honestly say that PD was new to me I'm still a little old fashioned ... trained in top-down this is a very different method"..... "I think that I should have received that reader [about PD] earlier....I would have been prepared better, I think..."</p>
<p>Participation in the team:</p> <p>Student: "You should stay very neutral...You've learned to stay a bit out of the team...having a helicopter view.... But now that is difficult! If you want to have a support base in the team.... to get a good collaboration with the team, you should become one of them.You should do the same work they do, being there at the same time...."</p> <p>Interviewer: On which purpose you confront the students with your comments and question? Preceptor: "I just want something to happen!.....that I get what I want!""It is also the instruction I received [from the management].....So, I would like it when they [students] put some continuity in it".</p>
<p>Discussion:</p> <p>Student: "When you have a discussion in the team, and I think that's okay, then I look...Who say's what? What is the [educational] level of that person? ...You notice differences, in how things are said....Or how they reacted to the things I had told....sometimes, I noticed that I had to spend more time...To explain better, or more clear...Telling and showing things on another level...And that is also what you have to take into account during discussions....what is the educational level of the persons you are discussing with..."</p> <p>Lecturer: "As the minor progresses, the courage to discuss increases....Firstly, a certain feeling of safety must arise""It is a growing process"... "that they learn to argue and that they got reflected from the others, what the impact is of their meaning ... Then, a change or a growing insight will arise". "That's what I would like them to do more...Not only dropping a meaning [on the online forum], but also inviting the other, to give reaction"</p>

¹ Quotes are slightly edited, for the benefit of readability.

Reflection:

Lecturer: [to a student]: "Corresponding to the philosophy of PD it is necessary to invite people to think with each other, ...making the next step. When they get the feeling that you decided everything for them.....[Reaction Student]: Yes, then it fails....but that was not my intention...But as you explain it like this...I can imagine indeed that I'm gone to fast"...."I'm a quick thinker, I should have had the feeling that it goes three steps to fast!..."

Lecturer: "The preceptors...there is a huge difference....one preceptor will work three, four days a week, she's like a direct colleague...Another preceptor will speak to her student on appointment, once in two weeks...more as a coach.."...."When they have a bachelor nurse as preceptor, who's capable to reflect well, they [the students] will automatically adopt that...thinking about the process""Well, if someone has the knowledge and insight [about PD], that person is more motivated to facilitate the learning, she can be more like a sparring partner...And that is what is lacking in care practice at this moment....That is what I dare to propose..."

Giving support:

Preceptor: "Look, in principle, I do not demonstrate anything....Actually, they go to work very independently...That's what they get at school...That's how I see it, it is really a part of school"

Lecturer: [to the students] "This is important information!! When people are not used to be invited to think along [about care innovation]...The steps to make with such a team are small"...."But you should celebrate every step!"...." I think this step is a real profit! When you compare it to the first meeting....And that you have still achieved that a whole team is willing to invest in that now!!

Putting learning experiences into broader context:

Student: "When I think of the competences, I think particularly that's what you have to reach at the end of this minor, what you are able to perform...and that you're able to underpin why you've had made some choices"...."Yes, of course, knowledge is important. You need to know what you're talking about....because...when you get questions, and you don't know the answer.....it is my responsibility"

Preceptor: "I think it's a bit superficial sometimes, they're young and unexperienced...I won't say that they they're not going to learn in the future, but for the moment it is rather difficult to develop"....."I think they will reach it at the end [of the minor], but that will be on the level of a beginning professional!"

Lecturer: [to the students]" I think it's more important that you are in contact and connection with your team, then doing a "trick" you've learned, you understand? That's not important! ... Clients' care, that's important! That's what this is all about!! That something really changes for those clients"

English abstract

Title: Learning activities in a powerful learning environment in elderly care practice, contributing to nursing students' development of innovation competences. A multiple case study.

Background: Nurses fulfil a crucial role in sustainable care innovation. During vocational training, bachelor nursing students should develop appropriate competences. Powerful Learning Environments, combined with the concept of Practice Development, may activate students' development of innovation competences. Little is known about required learning activities demonstrated by students, lecturers and preceptors in this type of learning environment in elderly care.

Aim: To improve learning environments concerning students' development of innovation competences.

Research question: Which learning activities, that may contribute to the development of student's innovation competences, are created and performed by students, lecturer, and preceptor in a powerful learning environment in elderly care practice?

Method: A qualitative multiple case study was conducted. Cases were defined as internships, concerning the bachelor minor course "Innovations in care". Data collection included semi-structured interviews with students, lecturers and preceptors. Observations were conducted in three team-meetings and at progress-meetings at school. Data were analyzed using combined deductive/inductive approaches.

Results: Seven learning activities were demonstrated by students, preceptors and lecturers: Asking questions, searching for evidence based knowledge, participation in the team, discussion, reflection, exchanging support, putting experiences in broader context.

Conclusion: Demonstrated learning activities will be more powerful when preceptors become strong Practice Development role models, and when more attention is paid to supervisors' influence on students' self-efficacy and outcome expectations, as well as to students' intensified participation in daily care.

Recommendations:

Creators of learning environments in elderly care should discuss educational visions and join forces to create Practice Development training for preceptors and managers. Research in practice is indicated to explore its effectiveness on students' innovation competence development.

Keywords: Powerful Learning Environment, Practice Development, innovation, elderly care, nursing students.

Nederlandse samenvatting

Titel: Leeractiviteiten in een krachtige leeromgeving in ouderenzorg, die bijdragen aan de ontwikkeling van innovatiecompetenties van verpleegkunde studenten. Een kwalitatieve multi-case studie.

Inleiding:

Verpleegkundigen leveren een cruciale bijdrage aan duurzame zorginnovatie. Gedurende hun beroepsopleiding zouden bachelor verpleegkunde studenten al benodigde competenties kunnen ontwikkelen. Krachtige leeromgevingen waar het concept van Practice Development wordt toegepast, kunnen deze competentieontwikkeling bij studenten activeren. Er is weinig bekend over welke benodigde leeractiviteiten daartoe uitgevoerd worden door studenten, docenten en praktijkopleiders, in dit nieuwe type leeromgeving in de ouderenzorg.

Doel: Het verbeteren van leeromgevingen, gericht op ontwikkeling van innovatiecompetenties.

Onderzoeksvraag: Welke leeractiviteiten, die een bijdrage kunnen leveren aan de ontwikkeling van innovatiecompetenties van studenten, worden in een krachtige leeromgeving in de ouderenzorg gecreëerd en uitgevoerd door studenten, docenten en praktijkopleiders?

Methode: Dit onderzoek had een kwalitatief “multi-case” design. De cases werden gevormd door stageplaatsen van de minor “Zorginnovaties”. Data werden verzameld in drie cases, en op school middels interviews met studenten, docenten en praktijkopleiders. Tevens werden teambijeenkomsten en voortgangsbijeenkomsten op school geobserveerd. Data werden geanalyseerd in een gecombineerde deductieve en inductieve benadering.

Resultaten: Studenten, docenten en praktijkopleiders demonstreerden de volgende zeven leeractiviteiten: Vragen stellen, zoeken naar “evidence based” kennis, discussiëren, reflecteren, teamparticipatie, uitwisselen van steun, ervaringen plaatsen in bredere context.

Conclusie: De gedemonstreerde leeractiviteiten zullen krachtiger zijn wanneer praktijkopleiders sterkere Practice Development rolmodellen worden, studenten meer in teams participeren, en wanneer meer aandacht komt voor de invloed van opleiders op de zelfeffectiviteit en studieverwachtingen van studenten.

Aanbevelingen:

Ontwikkelaars van leeromgevingen in de ouderenzorg moeten hun onderwijsvisies bespreken, en krachten bundelen om een Practice Development training te ontwerpen voor praktijkopleiders en managers. Verder onderzoek in de praktijk is nodig om de effecten daarvan op de competentieontwikkeling bij studenten te onderzoeken.

Trefwoorden: Krachtige Leeromgeving, Practice Development, innovatie, ouderenzorg, verpleegkunde studenten.