Graduate thesis

NTNU
Norwegian University of Science and Technology
Faculty of Medicine and Health Sciences

Julie Tveita Lea

A formative playground

Student experiences from a student-run outpatient clinic in dermatology

Graduate thesis in Medicine

Supervisors: Ellen Heilmann Modalsli – MD PhD
Marie Thoresen – MD MMSc Medical Education
Brita Pukstad – MD PhD

January 2020

NTNU
Kunnskap for en bedre verden

Preface

This graduate thesis in medicine was written during the fall semester of 2019 at the Norwegian University of Science and Technology (NTNU) as a part of the medical school curriculum. The aim of the study was to explore students' experiences when attending clinical teaching in dermatology at a student-run outpatient clinic. While doing this study, I have learned a lot about how qualitative research is conducted and how it should be interpreted.

I would like to thank my three supervisors: Ellen Heilmann Modalsli, Marie Thoresen and Brita Pukstad. A special thank you to Ellen and Marie for guiding me through this journey of learning about qualitative research and research in general. Thank you for motivating me by being patient, encouraging and enthusiastic about my project, and also for letting me participate in developing this curriculum innovation in dermatology. I would also like to thank Brita for introducing me to this exciting project, and for helping me shape the study and thesis together with Ellen and Marie.

Trondheim, January 15, 2020

Julie Tveita Lea

Abstract

Introduction

Clinical teaching is regarded as an important part of medical students' education. It is an arena for practicing clinical skills and applying theoretical knowledge to practical situations. There are many ways of arranging clinical teaching, but no definite answer to how one can achieve maximum learning outcome for the students. However, theories describing learning mechanisms and principles for eliciting motivation can be applied when planning new clinical teaching sessions. In Fall 2019, the Department of Dermatology at St. Olavs Hospital in Trondheim, Norway, implemented a student-run outpatient clinic in dermatology for eight students attending the longitudinal integrated clerkship program at the Norwegian University of Science and Technology (NTNU) medical school. This was a different type of teaching session compared to the traditional clinical teaching at the medical school, which has been done in groups at hospital wards and with the medical students having little or no experience of autonomous patient care.

In this study, the students' experiences during their attendance at the outpatient clinic were explored to learn more about which elements the students perceived as important for their learning and motivation.

Methods

Individual semi-structured interviews were conducted with eight fourth-year students attending an integrated longitudinal clerkship medical school program at a university in Norway. The focus of the interviews was the students' experiences from a student-run outpatient clinic in dermatology, and especially regarding their learning and motivation. A conventional content analytic approach was utilized to analyse the transcripts with a second-coder approach to ensure rigour of the analysis.

Results

The results of this study suggest that a playground for learning, formative learning and authentic learning were three main themes describing what the students regarded as important for their learning and motivation during clinical teaching. The students reported enjoying teaching sessions in an authentic learning environment that felt safe and predictable. A playground for learning describes the students' positive experience of being given the freedom to work independently and assess patients on their own within safe frames and with a preceptor nearby. This made them feel like a physician and motivated them to study, as well as making them experience clinical teaching in dermatology as fun. The students also found it important for their learning process to be quizzed by the preceptor and get feedback on their performances often during the clinical teaching sessions. This worked as a way of formative assessment, which helped them identify knowledge gaps and

learn how to make further progress. An authentic setting where the students got to meet many patients with different dermatological issues was described by the students as very valuable experience for later clinical practice.

Conclusions

A predictable learning environment where the students could test their limits in clinical skills within safe frames was appreciated by the students. Formative assessment throughout the clinical teaching sessions was perceived as very valuable, as it helped students identify knowledge gaps and make a plan to fill them. Authentic learning was regarded as important by the students because it gave them valuable experience to build knowledge on further on. The results from this study about students' experiences from clinical teaching can be valuable for further development of this teaching arena by giving insight into which teaching methods that elicit better and more effective learning.

Content

BACKGROUND **5**

MATERIALS AND METHODS **8**

RESEARCH DESIGN 8

PARTICIPANTS 9

SAMPLING 9

DATA COLLECTION 9

DATA ANALYSIS 10

DATA SAFETY 10

RESULTS **10**

A. Playground for learning *11*

B. Formative learning *14*

C. Authentic learning *17*

DISCUSSION, LIMITATIONS AND FURTHER RESEARCH **20**

DISCUSSION 20

FURTHER RESEARCH 23

LIMITATIONS 24

CONCLUSIONS **25**

BIBLIOGRAPHY **27**

APPENDIX **29**

Interview guide (in Norwegian): *29*

Background

Clinical teaching during medical school is regarded as an important arena for learning, as it provides an opportunity for the students to practice on using several practical skills and their theoretical knowledge simultaneously (Spencer, 2003; Peters and Ten Cate, 2014). At clinical teaching, the students typically meet and assess real patients with a specialist physician supervising. Besides providing students with essential clinical skills, clinical teaching has also been considered an important factor regarding motivation among medical students as they regard it as highly relevant for their future work as clinicians (Spencer, 2003).

Considering that clinical teaching is seen as a vital part of medical students' education, it is reasonable to suggest that medical education institutions should aim to optimize these teaching sessions to ensure maximum learning outcome. There are many ways of conducting clinical teaching, and different subjects might require different types of activities (Ramani and Leinster, 2008). Research done on how to stimulate learning and motivation has led to several principles and theories that can be applied to the organizing of clinical teaching.

As adult learners, students are likely to learn in accordance with principles of adult learning theories. One theory by Malcolm Knowles suggests that adults learn differently than children (Taylor and Hamdy, 2013). The theory offers five different principles that explain what induces the most effective learning in adults, including the following: a need to know why certain things are useful to learn, an idea of being responsible for their own learning, a set of experiences that influence their learning process, a reason or goal for learning something and an internal motivation to learn (Taylor and Hamdy, 2013).

An internal motivation to learn can perhaps seem more difficult to influence than the other four principles. There are several definitions of motivation, and while some describe it as an independent variable, others state that motivation can indeed be influenced (Kusurkar *et al.*, 2011). The theories describing motivation as a phenomenon dependent on a range of factors that can be taken into consideration and stimulated when organizing teaching sessions (Kusurkar *et al.*, 2011). One motivation theory, the self-determination theory, suggests that motivation which most often elicits deep learning and high achievements is dependent on three factors: autonomy, competence, and relatedness (Cook and Artino, 2016). Autonomy in learning is being able to make own decisions while being in a learning situation. Competence refers to feeling confident that one is able to master the challenge, and relatedness is wanting to belong or feel connected to someone (Cook and Artino, 2016).

Another principle which is regarded as important for learning is so called “desirable difficulty”. This idea was first described by professor in psychology Robert Bjork, and it states that in order to learn most efficiently and improve long term memory, the tasks presented to the learner should neither be too easy nor too challenging (Bjork, 1994; Bjork, 2018). When facing a challenging task, the learner will usually perform poorly and appear to learn slowly, but this elicits learning that improves long term memory and performance (Bjork, 2018). Desirable difficulty can be linked to the self-determination theory mentioned above, as “optimal challenge” is important for supporting the competence factor (Cook and Artino, 2016). Arranging clinical teaching with tasks like this can be done in different ways, e.g. creating an unpredictable learning environment, frequent testing, spacing and interleaving (Bjork, 1994). Spacing and interleaving are now well established principles for improving learning (Roediger and Pyc, 2012). Spacing is to add a time delay between each repetition of the same information instead of repeating it back to back, while interleaving is to alternate between different topics when studying instead of completing one topic before starting to study a new one (Roediger and Pyc, 2012).

One more important principle for learning that needs to be presented is feedback, as it is regarded as a powerful tool for learning and is very relevant to apply to clinical teaching sessions (Hattie and Timperley, 2016). It is, however, important that the feedback is given correctly to achieve the positive effects. High quality feedback is feedback which is concrete, goal oriented, meaningful for the recipient and delivered at the proper time (Wiggins, 2012). Providing students with high quality feedback during the teaching sessions can provide them with useful information to make further progress (Hattie and Timperley, 2016).

The setting of clinical teaching sessions is also relevant to take a look at, and clinical teaching sessions which aim to provide an authentic learning environment and give students more responsibility has shown to be positively welcomed by medical students (Schutte *et al.*, 2015; Salminen, Ohman and Stenfors-Hayes, 2016). In a qualitative study exploring students’ feedback from attending clinical practice in primary health care, one of the findings was that the medical students enjoyed learning in an authentic environment, and that this was perceived as important for their development toward becoming physicians (Salminen, Ohman and Stenfors-Hayes, 2016). To provide authentic learning arenas, several varieties of student-run clinics have been developed around the world (Wang and Bhakta, 2013; Sick *et al.*, 2014; Stuhlmiller and Tolchard, 2015). A student-run clinic is a setting where the students are the main provider of healthcare for the patients, but with a clinical specialist supervising and quality approving the work (Schutte *et al.*, 2015).

In August 2018, the newly established longitudinal integrated clerkship program at the Norwegian University of Science and Technology (NTNU Link), accepted its first eight students (Lillebo, 2019). Both

the NTNU regular medical school curriculum and the Link program are six-year medical school programs. However, the medical students in the longitudinal integrated clerkship spend their third and fourth year attending more clinical teaching sessions than their peers at the regular program. The Link program has a main focus on active learning through these sessions in the clinic combined with self-study, and they have very few traditional classroom lectures.

The Link program is modelled after internationally recognized pedagogical principles for learning, offering more clinical training and more continuity in patient relations (Strasser and Hirsh, 2011; NTNU, 2018). A key concept in the NTNU Link model is active learning. Active learning is a term used to describe learning in which the students are active learners, and not passive bystanders (Cambridge International, 2017). This has been found to stimulate critical thinking, effective learning and engagement (McCoy, 2018). The weekly schedule for the Link students mainly consists of clinical teaching sessions and time allocated to self-study, in addition to weekly sessions of case-solving in groups (problem-based learning) and seminars. The students attending the regular medical school program generally have a more traditional mix of teaching methods, for instance with several traditional lectures, problem-based learning sessions and clinical teaching in groups. While the clinical teaching sessions at each hospital department are spread evenly throughout the semester for the Link students, the students receiving the traditional or regular curriculum visit each hospital department in turn, one after the other. In dermatology, the students in the regular program receive clinical teaching during three consecutive weeks during the term.

In Fall 2019, the Department of Dermatology at NTNU organized clinical training sessions in dermatology and venerology for the NTNU Link-students for the first time and initiated this as a curriculum innovation project delivering clinical teaching mainly through a student-run dermatology outpatient clinic. The clinical teaching in dermatology consisted of three outpatient clinic sessions for each pair of two students and three seminars with the whole student group present, distributed throughout the semester. In order to make the students “zoom out” and focus on general medical history taking, examination techniques and a precise description of skin lesions, the students did not know their patients’ diagnoses until the actual day of the outpatient clinic. Students were taught how to prepare a range of clinical skills before the clinic, like how to perform a correct description of dermatological lesions and how to write a medical record.

The purpose of this content analytic qualitative study is to explore the participating students’ experiences with motivation and learning through their engagement in this student-run clinic in dermatology.

Materials and methods

Research design

The Department of Dermatology at St. Olavs Hospital provides clinical training for three weeks during the medical students' fourth year, see table 1 for details. The clinical teaching sessions are conducted in groups of six to eight students.

Hours	Type of session
3 x 2 hours	Outpatient clinic
1 x 2 hours	Hospital ward teaching
1 x 2 hours	Skills lab: venerology
1 x 2 hours	Skills lab: chronic venous ulcers
1 x 30 minutes	Skills lab: Biopsy taking
1 x 30 minutes	Skills lab: Suturing

Table 1: Overview of clinical teaching sessions for medical students (NTNU regular program).

In this project, the eight medical students attending clinical teaching in dermatology through the Link program from August to December 2019 was divided into four pairs of two medical students. Throughout the term, each pair of students had three visits at the outpatient dermatology clinic at St. Olavs Hospital, the main teaching hospital, in Trondheim. The student pairs met three patients each time during three hours at the clinic. Each student pair talked to each patient together, obtained a relevant medical history and performed an appropriate clinical skin examination. After approximately 30 minutes, the clinical preceptor entered the room and asked the students to present the case in front of the patient. In some cases, the preceptor sat behind a curtain to mimic a situation where the student in the future might e.g. ask for advice from a dermatologist by telephone, regarding a patient the dermatologist cannot see. The students were then asked by the preceptor to suggest differential diagnoses and supplemental diagnostic tests if required, e.g. relevant blood tests, skin biopsy or microbiological skin samplings. If possible, the supplemental diagnostic procedures were performed by the students themselves under close supervision. Finally, the students wrote a summary in the patient's medical record, which was later quality assured by the preceptor and sent as a summary back to the referring physician.

A phenomenological and content analytic approach was utilized in this project to explore the students' experiences from the student-run outpatient clinic. Phenomenological research is a qualitative research approach that focuses on exploring the participants' subjective experiences of a phenomenon; in this case the students' experience of the student-run clinic (Ng). Qualitative research methodology was chosen for inductive exploration of the students' reflections about their motivation and learning during this curriculum innovation (Patton, 2002).

Participants

There were eight students attending the NTNU Link program, and they all attended clinical training in Dermatology during the Fall semester 2019. All eight medical students (100%) participated in the student-run outpatient dermatology clinic during the term. These students were fourth-year students who had completed the two first years of the six-year medical school program together with the medical students attending the regular program, and one year as part of the NTNU Link program.

Sampling

Convenience sampling was utilized, and all eight students attending the Link program was invited to participate in interviews for this qualitative study. This sampling method relied on selecting participants which were conveniently available within the accessible population (Tavakol, 2015). To ensure maximum breadth of experiences, all eight students were included, and they all agreed to participate.

Data collection

Individual interviews were performed, in which all student-participants were interviewed once by the investigator. The interviews were semi-structured and conducted in Norwegian. The interview guide is included in the appendix. Before being interviewed, the students had participated in at least two sessions at the student-run clinic. One participant had attended all three sessions. The interviews were digitally recorded and lasted for approximately 40-60 minutes each. Transcription of the recordings was done in Norwegian by primary investigator and medical student Julie Tveita Lea, and further analysis of the data was done in English.

Data analysis

The transcripts were analysed using a conventional content analytic approach. This includes open coding, creation of a structured codebook and coding of transcripts. Further on, through an inductive and iterative approach to the data, the creation of emerging categories and themes of motivation and learning (Harding, 2013; Tavakol, 2015).

To ensure rigorous analytic procedures, a second coder approach was utilized (Patton, 2002). The second coder was the co-mentor in the project. The primary investigator open-coded two transcripts and attuned the results with the open coding done on the same two transcripts by the co-mentor. After this, a draft for a structured code book was created by the primary investigator. The code book was reviewed together with the co-mentor, then revised and sent to the co-mentor again for feedback. After this, the final draft was revised and used to code a third transcript, which lead to further modification of the codebook. The final version of the code book was again sent to the co-mentor for revision before being used to code the remaining transcripts. The structured coding was done using the online coding tool Dedoose (*Dedoose* 2019). The codes were used as a basis for developing a first set of descriptive categories representing the data. These categories were then used to make three final themes of students´ experiences of learning and motivation.

Data safety

When conducting in-depth interviews one-to-one, there can be sensitive information in both the transcripts and audio files. The audio files and transcripts were de-identified of personal data and saved confidentially on a password protected computer on a safe server at NTNU. To secure the anonymity of the students participating in the study, each participant was assigned to a number on each transcript. The number was connected to the identity of the participant through an identification key, which was stored confidentially and separately from the list of participants´ identities.

The project was submitted for approval by the Reginal Committee for Ethics in medical Research (REK), The Norwegian Center for Research Data (NSD), the Head of Departments at NTNU and St. Olavs Hospital according to the EU General Data Protection Regulations (GDPR).

Results

Three main themes pertaining to the students´ experiences of learning and motivation during the project emerged from the data. Learning took place in a context that was like a safe playground for the students, and the learning was formative and authentic. These three main themes are named A to

C below, and they are illustrated with quotes from all participating students. Students are randomly named 1-8 in the citations below.

A. Playground for learning

Students reported that being allowed to meet challenges fit to their level of competency and test their ability to handle these on their own in a safe setting at the outpatient clinic was motivating. They generally enjoyed being given freedom to explore their limits in clinical skills and knowledge without a risk of giving the patient poor or faulty treatment. To create such a safe environment, many believed that it was an advantage that they had been presented with a clear framework for the session. They appreciated being told in advance what they were expected to do during the clinical teaching session at the outpatient clinic and how much time they would have at their disposal. Several of the students also felt that it was important that the patient was informed about it being a learning situation for the students, and that the preceptor would in the end make sure that the patient got the correct treatment before leaving the clinic. These elements together created a playground for learning where the students could test their knowledge boundaries and clinical skills out of harm´s way, without the dangers of losing face or doing harm to the patient.

The medical students reported that they enjoyed being given more responsibility during the sessions in a safe setting, as this made them feel more relaxed about mastering their future clinical practice and medical internship. Making errors is a natural part of learning by doing, and the students said that they enjoyed being able to learn new skills in a safe setting without any risk of making serious mistakes that could harm the patient. One student described this by stating the following:

"It's very nice to feel like you have that responsibility, but within a safe framework, and to have some good and some bad experiences. And knowing that it was fine if it didn't go that well with the first patient. It's kind of a good experience to have a bad experience that went well after all." – Student 3

The students described it as very positive that the preceptor knew what level of competence they were at before attending clinical teaching and what level they should be at for the exam. They believed that this was necessary for the preceptor to be able to provide tasks with the adequate level of difficulty. The preceptor was perceived as well-prepared and aware of what the students were supposed to learn. This made the students more comfortable with making

mistakes, which is a natural part of testing one's own abilities. A student explained that this affected his/her experience of making mistakes in a positive way:

"When the preceptor has a clear vision of what we should know and what level we should be at, and is asking us questions without us having to be afraid of answering them wrong, it makes you feel better." – Student 1

Another student mentioned the same, but focused on explaining that this also was important for preparing them for the exam and their residency:

"It's important that the preceptor knows what level we are supposed to be at, both for our exams and for our residency." - Student 6

A different aspect of creating a safe playground for the students to explore their abilities seemed to be predictability when attending clinical teaching sessions. The students reported that they enjoyed knowing which tasks they would be assigned and what their role and responsibilities would be before attending clinical teaching sessions. Being told in advance which exact tasks they were expected to do during the sessions appeared to make them more prepared for learning and helped them focus on the dermatological challenges. They knew they were going to read a referral, bring in the patient themselves to take a medical history and doing a clinical exam, report to the preceptor and take samples if necessary, before writing a summary in the patient's medical record. They also knew how much time they had at their disposal for completing the tasks. This seemed to have made the students more relaxed about attending clinical teaching sessions and increased their focus on solving the medical challenges instead of administrative ones. Two students described appreciating this, the first one compared it to experiences form other clinics and the second found it helpful to have a well-defined plan for the sessions:

"What has been good? The fact that we have become very prepared for what we are going to do. I notice a big difference from other clinics, or other types of clinical teaching sessions at other departments. Because there we might have shown up without knowing much beforehand, and it's a completely new subject, right? And then the hour we spend there becomes kind of wasted as we fumble around in the dark without knowing what to look for and what to do. (…) While at dermatology I think it has been very good that we have known

what to do, which has made us very focused from the start. Yeah, so I think that has been very, very good." – Student 1

"You know that: "I have three patients; I have this amount of time". I think it's very nice to have a concrete idea of what I'm actually supposed to do. (…) I like that a lot, that there is a plan. You know what you are getting into." – Student 4

Some students expressed a wish to also have known more about the diagnosis or group of diagnoses before the session, in order to better prepare and be more familiar with the diseases they would see examples of the following clinical teaching session. So, in addition to know what tasks they were going to do, they also wanted specific "homework" for each session. They experienced it as difficult to prepare for the different medical cases when they could get cases from all categories in the curriculum. When faced with the possibility of getting patients with any type of dermatological disease, some seemed to be overwhelmed and less motivated to read up on different dermatological diagnoses at all. One student explained that this would have made him/her more likely to have prepared for the session:

"Like today, I didn't know anything about which medical cases we were going to encounter. If I had known today was going to be eczema- and psoriasis- day, I would have prepared for that. It would also probably be easier for our preceptor to challenge us then." – Student 6

Another student mentioned the same, and also added that the different subjects were competing for the students' focus and study time during the term. Consequently, students could tend to prioritize reading on specific topics they knew they would need in the near future:

"Also, for motivation's sake, we haven't gotten to know any diagnoses - what we are going to encounter next week at the outpatient clinic. I think that would be good to know. I don't mean knowing the exact diagnosis, but getting an idea of what to expect, like knowing it's a dermatosis or a mole. You can't just study "dermatology". (…) Often when we have a lot of subjects to study, we need a specific reason to study something." – Student 5

B. Formative learning

The students wanted to be quizzed and assessed by the preceptor as often as possible during the clinical teaching sessions in order to map their competence and get the knowledge they needed to fill their gaps. The circular process of trying their best, getting feedback and being re-assessed by the preceptor gave them an opportunity to monitor their progress throughout the term. Through this the students´ knowledge about dermatology was molded during the term, and these formative experiences at the outpatient clinic gave the students increased motivation.

Students reported being generally more motivated to learn after testing a skill in the outpatient clinic or being quizzed, getting meaningful feedback on their performance and then getting advice and guidance on how to make further progress. This formative process of trying and failing in order to find out what they needed to learn seemed to work as a guide for their studying. Some students reported that it also helped them understand what the central concepts and skills in dermatology are.

As a means to being assessed, many of the students expressed a wish to be pushed to use their prior knowledge when facing new challenges by being quizzed by the preceptor during the clinical teaching session. They preferred being encouraged to use their reasoning skills to come up with suggestions and new questions rather than the preceptor telling them the answer straight away. This apparently made them more focused in the learning situation, and they found it easier to remember their own rationale later than remembering something they had been told. This student explained how it helped him/her identify knowledge gaps:

"You really get to test whether or not you know something, when a physician starts asking questions about your evaluation, thoughts, what the correct treatment is and what you think it might be. So then you ought to know it, and if not you have to go home and read about it. When you just read something in a book, on the other hand, you might think you know it afterwards when you actually don't." – Student 6

Many students emphasized the importance of useful feedback after being quizzed or doing a task from mainly the preceptor, but also from their peers. Useful feedback was described as feedback which were concrete, personally directed and honest. They felt this was helpful for improving and perceived it as valuable for working towards passing the exam. One student described this:

"So, if I hand in a report, right? It's not just like "yeah that's really good" or something like that, it's like more specific feedback, and there's always something that can be improved. And the preceptor is very good at, like, picking out those specific things. And it's also seemed very, like, relevant to the final exam. It's something we students like a lot." – Student 3

After getting feedback, several students reported that the opportunity they were given to repeat back to the preceptor was important, as it gave them a chance to experience making progress in a short time and gave them a sense of mastery. By repeating shortly after getting feedback on their initial performance, the students could check whether or not they had understood the advice they had been given. One student recalled how this would play out after getting feedback from the preceptor:

"After hearing the feedback you can try to give the report again to see if you're actually able to understand the advice that were given to you. (…) For example, if we have presented the case one time, the preceptor might say later that "okay, now when we have discussed this a bit, how would you present it now?" or "present it again with this in mind. And that's really nice, because you get pushed - and practice makes perfect" – Student 6

This way of working, with the ball passing back and forth between student and preceptor also seem to have affected how focused the students were throughout the clinical teaching session. Keeping the students active and engaging them at all stages of the session pushed them to be alert and take the advice and feedback into use straight away. A student underlined the importance of this by expressing:

"And here you actually have to be alert all the time even though the doctor takes over, because if the preceptor gives you feedback and asks you to try it out again, you have to show you've taken the feedback to heart. Or at least try. So yeah, I think it has been good."
– Student 6

Another aspect of repetition the students appreciated, was learning to feel comfortable with examining twice and reevaluating their first interpretation. To practice the senses in recognizing clinical signs can be valuable competence for students in clinical practice later, and it can sometimes be difficult for unexperienced students to notice things they do not know

they should be looking for. After discussing and attuning with the preceptor, some students experienced changing their mind about what they first thought they were seeing when taking a second look, as this student recalled:

“So that´s a good thing, that we get to try for ourselves before the preceptor comes. And then maybe the preceptor will say «Okay, look again - do you agree with what you said first said now?» And then you might change your mind. Like today, when I first thought that «This looks completely fine», and then it turned out that «oh, no: it’s actually some suspicious blood vessels here and a rolled border».” – Student 7

After identifying knowledge gaps, the students expressed that they appreciated the preceptor being acquainted with what they should learn, as this was important for providing guidance for their self-studying. The students experienced it as useful for further reading when the preceptor clarified what was important and what they should focus on. This gave them a sort of “road map” to the curriculum and made it easier to learn the most important and central things first. With large amounts of curriculum to handle, clarifying take-home points and simplifications provided by the preceptor were valuable for the students when they tried to make sense of all the new information. This student expressed that he/she specifically wanted the preceptor to help them sort out what is important, and not telling them too many details during clinical teaching:

“But I think it’s important to focus on helping the student see the bigger picture and what’s really important here. Not digging down into some exiting third generation treatment or something like that.” – Student 3

In addition to giving the students key points, the students also appreciated it when the preceptor helped them limit their studying when reading too much of the less essential parts of the curriculum. Advice on how to change focus was described as helpful and important to better understand what they should prioritize reading about in dermatology. This was also a way of shaping how and what the students learned in the subject. These two students talked about getting help from the preceptor to guide their focus for studying in dermatology, but linked it to limiting their own studying to the most important elements and avoid using valuable study time on unnecessary parts of the curriculum:

"So if there's something theoretical that we don't know the preceptor will give us recommendations on where we can learn about it, and what's most important to know. Because you can read up on incredibly detailed things, but it might not be necessary."
– Student 2

"The preceptor sort of told us that "this is what you should focus on". Alright, but then that's what I'll do. And then I know that this is what's important. And I feel like it has been like that throughout the course. Like when we were looking at a mole, and the preceptor said "okay, you have to know the abcde-rule, that is what you need to know". Well okay, then I know what is important and what I should focus on." – Student 6

In addition to identifying knowledge gaps through quizzing and feedback, several students also mentioned during the interviews that they liked to confirm their interpretation of new information and experiences at the outpatient clinic by having a debrief with the preceptor. By attuning their understanding of different dermatological topics with the preceptor during the clinical teaching sessions they could establish if they had understood a concept correctly or not before heading home to study more. This was important for them to prevent further misapprehension and in order to proceed with correctly filling their knowledge gaps. Students explained that it was important that enough time was set aside for this, as they perceived this harmonization of comprehension to be important. One student explained how this would typically occur:

"I always make up my own mind about what I would have done [to the patient] myself, and I check if that aligns with what the preceptor says. (…) Yeah, I think that works as a type of closure (…) and you get to go home and think correctly." – Student 6

C. Authentic learning

The students reported enjoying doing activities that were as similar as possible to the work they will do in their future roles as physicians. To get more responsibility in the role as a physician seemed to be very motivating for the students and made them feel more prepared for what they would face later as both medical students and physicians. Seeing many real patients was mentioned by several students as very valuable for acquiring experience in recognizing different signs and manifestations of diseases when evaluating similar cases in

later clinical practice. An authentic setting was also described to contribute to eliciting positive emotions in the students. This student mentioned many of these elements here:

"Yeah, I have this experience of like, you feel like a doctor when you have an office assigned to you, you get three referrals. (…) But I always evaluate myself what I would do, and then I check if that corresponds with what doctor says. It's very fun to feel kind of like a doctor. (…) I think you get more prepared for the profession, first and foremost in your clinical practice in your fifth year, where you kind of get more prepared for being a doctor and being independent. Like, not just getting thrown into your residency." – Student 6

The students appreciated being taken seriously by the preceptor and get responsibility, as this contributed to their feeling of being a real physician. To experience that they were able to participate in treating the patient in a real way made them feel more confident about embarking on the clinical practice and medical internship in the future. This also made them more focused and encouraged them to do a good job when assessing the patients. They also thought it was very fun and motivating to play the role as doctor. This student expressed being very satisfied with being allowed to participate in the physician's assessment:

"In a way it is important that I – during or after - feel seen and heard by the preceptor. That when the preceptor enters the room, he or she doesn't completely take over control, but my assessment actually is taken into consideration, and you get asked what thoughts you have, and maybe what you think about further treatment. Then you feel like you're actually contributing, and that you take part in treating the patient. And I think that's nice. The preceptor has been good at this. And that also makes it a little more realistic, when you get asked questions like that." – Student 6

Performing practical procedures on a real patient for the first time is also something all medical students have to do at some point. The experience of mastering this during clinical teaching with a preceptor close by to keep the setting safe for the student seemed to be of value to the students. They also found it exciting to perform practical procedures, as they reported having little experience in doing small surgical procedures like taking a punch biopsy. One student remembered taking his/her first punch biopsy on a patient:

"And it was nice to have done it once, because then I got to try taking a punch biopsy for the first time and it went well, it was a lot easier than I thought. You get past that stress during the first time, not knowing what to do." – Student 4

To be well prepared for clinical work later, the students also wanted to see many patients and manifestations of common and severe diseases with a preceptor at hand to explain and guide them in how to handle these cases and what to look for. The students expressed that they thought it was important to get as many references as possible in order to better assess similar cases in the future. They also found that this gave them a drive to learn more as they got curious after seeing examples of the diseases. One student described feeling lucky after seeing several examples of central diagnoses at the outpatient clinic:

"And I felt I was lucky, because I got to see a lot of classic cases. Something that was a type of cancer, and then I got to see a case of psoriasis, and then I got to see a person with eczema. So, it was very alright, to get to see it. A lot of the common things." – Student 4

Although many patients presented with typical signs and symptoms, some did not. Students explained that experiencing the opposite gave new perspectives about learning. While books can provide typical examples and sort the information neatly, real patients do not come in a sorted order and with the exact same, classical symptoms. The students thought this was very valuable, as it made them realize that they needed to think about many differential diagnoses and combine the information from the medical history and clinical exam. One student described it as a useful experience to discover this:

"And not everything is a textbook example either, there are so many different manifestations of something, and that can be good to remember. Because if you only read something in a book, you might automatically think "this is how it has to be, and it can only be like this". There are many different ways for things to manifest." – Student 6

Seeing patients also made them reevaluate their understanding of dermatology, as they experienced that some things in real life were more challenging than they first believed after reading about them. The students were excited about this, as it made them more curious about dermatology. This student described discovering that dermatology was far more complicated than he/she expected:

"That's maybe what is changed: before I thought it was kind of black and white, but it's just a mass of grey. It's just a mess. (…) So, I feel it's a lot more difficult, like I kind of underestimated it. It's actually a lot harder. But that's also what makes it more exciting, because you are kind of a detective when you work." – Student 4

By seeing many patients, the students experienced acquiring what they described as "cognitive hooks". A "cognitive hook" was when they got to see an example of a patient in the outpatient clinic with some condition or situation which they could link information to when studying and thus remember the curriculum better. Seeing different lesions and manifestations of diseases was something they found very valuable and exciting, and it motivated them to study dermatology. It seemed that by examining the different lesions with multiple senses, like touching it and seeing it from different angles and distances, they added more layers to their understanding of that specific phenomenon. This was helpful for the students to better understand and remember what the textbook described when they were reading about it later. A student described that this was something he/she enjoyed and found very useful:

"I think it's very difficult to remember things I've read in a book. It's a lot easier when you've seen it and felt it. And being able to scratch it a bit and see that "OK, it's bleeding", and having done it yourself. It's makes it more exciting. It's a lot easier to remember, and it's also a lot more fun." – Student 8

Discussion, limitations and further research

Discussion

The intention of this study was to explore through individual interviews what students experienced when attending clinical teaching sessions in dermatology designed to be as authentic as possible.

The results of this study suggest that clinical teaching in an authentic setting with focus on formative assessment possibly could be both motivating for the students and an effective way of learning. Also, the results indicate that this type of teaching may stimulate the students to study more strategically and goal oriented outside of clinical teaching sessions.

Furthermore, the results suggest that students enjoyed a learning environment where they got freedom to explore their limits in knowledge and clinical skills in an authentic learning situation, but within safe frames and without risk of harming any patients in the process. The students expressed

that they enjoyed testing their abilities and knowledge in what could be called a "playground" for learning, and then get feedback and guidance on how to improve from the preceptor afterwards.

Having Knowles' adult learning theory in mind, many of these results make sense. An authentic learning environment and a formative learning process seemed to make it clearer to the students why they needed to learn certain skills. It also probably helped them identify the goal of the clinical teaching in dermatology. This resonates with the theory's two principles saying adults need to see the relevance of what they learn and identify the goal for the learning (Taylor and Hamdy, 2013). The students reported that they appreciated getting advice on what and how to learn when identifying knowledge gaps, but then learn this by reading or doing research on their own outside of the clinical teaching. This can be linked to the principle Knowles proposes of being responsible for their own learning (Taylor and Hamdy, 2013). When they knew why they ought to learn something and what the goal was, they had a wish to decide for themselves where to obtain more information.

Motivation was a phenomenon this study aimed to explore, as the right type of motivation has shown to be very important for learning. Motivation is another important factor for promoting adult learning according to Knowles' theory, and the self-determination theory proposes that motivation is dependent of three variables (Kusurkar *et al.*, 2011). These are autonomy, competence and relatedness (Kusurkar *et al.*, 2011; Cook and Artino, 2016). By trying to create a learning environment where the students were given as much responsibility and freedom as possible, the students might have gained a sense of autonomy in the clinical teaching sessions. This assumption is supported by several students mentioning that they felt motivated by being given more responsibility and being able to participate in treating the patient, as this made them feel like physicians. The competence factor in the self-determination theory is about students' beliefs in mastering the challenges they face. The students could possibly have felt that the challenges became more manageable as they might have become more concrete and clearer to them by being provided with high quality feedback, key points in the subject and clear demands by the preceptor.

Optimal challenge is also important for stimulating the competence factor, and this can be linked to the theory of "desirable difficulty" by Björk. This theory states that tasks should not be too easy nor too challenging to achieve a high learning outcome. The students reported that they enjoyed being quizzed and assessed throughout the teaching sessions, and that they experienced deeper learning when the preceptor pushed them to use their reasoning skills. This indicates that being challenged was welcomed by the students and perceived as useful for their learning process. Challenges should however, as mentioned above, be of adequate difficulty to achieve a high learning outcome in the long run. In advance, a pedagogical choice was made about not giving information about what medical

topics the students would encounter in order to give them tasks of "desirable difficulty". This is interesting, as the students expressed a wish to have known more about what groups of diagnoses they would encounter because they found it difficult to prepare for cases from the whole curriculum. Whether this pedagogical choice turned out to make the challenge too hard or not is unknown, as it is often difficult for students to evaluate the efficiency of their teaching sessions while they are attending them. Evaluating it later could provide more insight into how the students perceived that the level of difficulty affected their learning outcome.

The theories about adult learning, self-determination and desirable difficulty say something about concepts that influence students in a learning situation, but a more concrete tool to promote learning is feedback. The students reported being motivated to learn more by finding knowledge gaps through testing and getting high quality feedback from their preceptor. This helped them understand what they should focus on in further studying of dermatology. High quality feedback is described in the literature as preferably goal oriented, concrete and meaningful for the recipient (Wiggins, 2012). Feedback which were perceived as personal and with concrete comments on their performance helped the students understand what they needed to learn in order to make further progress. This is in line with what research has shown about how good feedback stimulates learning, and is especially important for enhancing the learning effect of testing (Larsen, Butler and Roediger, 2008; Wiliam, 2011; Hattie and Timperley, 2016; Konopasek, Norcini and Krupat, 2016). The students expressed that they enjoyed being quizzed and tested in clinical skills at the outpatient clinic. Good feedback after small tests during clinical teaching could thus help shaping the students' focus when learning dermatology and contribute to making them study more strategically. As medical studies are known for their extensive curriculum, the right focus when studying and help to uncover what are the key points in each subject can for some students be crucial to succeed at mastering the different medical topics.

Testing and feedback is described in the literature as important for formative assessment, which is a well-established tool for promoting learning (Roediger Iii, Putnam and Smith, 2011; Roediger and Pyc, 2012; Konopasek, Norcini and Krupat, 2016). In formative assessment, testing takes place during the learning process rather than as a final assessment of the student after the learning process, as is the case with summative assessment. Formative assessment is intended to guide students' learning along the way and monitor progress (Bell and Cowie, 2001; Konopasek, Norcini and Krupat, 2016). Regular testing in smaller parts of the curriculum has also been proven to be very effective in promoting self-directed study and long-term memory (Larsen, Butler and Roediger, 2008). This can explain the students' enthusiasm about being quizzed and testing their abilities before receiving feedback from the preceptor.

A final topic that often appeared in the interviews was that the students found it motivating and useful to learn in an authentic environment. The same has been found in other studies, and authentic learning environments seem to be valued by both nursing and medical students (Schutte *et al.*, 2015; Salminen, Ohman and Stenfors-Hayes, 2016; Swartz, 2016). Student-run outpatient clinics implemented in other countries have shown to promote interprofessional learning and motivation among students (Wang and Bhakta, 2013; Sick *et al.*, 2014; Stuhlmiller and Tolchard, 2015). By meeting many patients with different diseases and manifestations, they were able to build a knowledge base for further study. They described this as getting «cognitive hooks». This is a translation of a Norwegian term ("knagger") describing the phenomenon where students by seeing examples of patients with different conditions and situations were able to link these experiences to the information in books and thus remember the curriculum better. In addition to making studying easier, the experience of playing the part as a doctor might work as a motivational factor by reminding them of why they are putting time and effort into their studies. The six-year medical school program is long, and it can presumably be easy to lose sight of the goal they are working towards in the end. As mentioned above, one could also assume what students perceived as an authentic learning environment made them see clearly the relevance of the curriculum, eliciting motivation in the students according to Knowles' theory of adult learning (Taylor and Hamdy, 2013).

Further research

There are several further studies that could be done to gain more insight into learning and motivation in relation to clinical teaching session in authentic learning environments. To learn more about the students' learning, it could be interesting to do follow-up interviews of the participants in this study at a later occasion. This could either be later in their studies or at some point after finishing medical school, to explore how they perceived their learning outcome when looking back. As the data was collected during the term and before the final exam, the results only say something about the students' experiences from clinical teaching in dermatology while still attending it and without having any "real-life" working experience.

Another aspect that could be explored is the clinician's experience with clinical teaching sessions in a student-run outpatient clinic, both regarding their own experiences as preceptor and their evaluation of students' progress during the course.

There might be other important factors affecting learning and motivation that can be more prominent in other variations of clinical teaching sessions. Doing a similar study as this on students attending clinical teaching sessions in dermatology at the regular program at NTNU could uncover these, as the

Link students might not have known what they were missing if they never experienced anything else. It could also be interesting to explore students' learning and motivation during clinical teaching sessions in general and learn more about whether or not the students think different medical subjects require different types of clinical teaching.

Limitations

When carrying out qualitative research, the researcher's subjectivity and their relation to the participants have to be taken into consideration. The primary investigator was in this case acquainted with several of the participants as they attended the same medical school with the primary investigator being one year above the participants. This might have affected their answers during the interviews, even though the primary investigator was not close friends with any of the participants. This can have caused social desirability bias, which is when participants give overly positive responses because they wish to sustain or obtain a good relation to the investigator (Callegaro, 2011). Depending on the participants' relationship with the primary investigator, they could have felt either more or less comfortable with telling personal experiences. The primary investigator was also involved in planning the curriculum innovation, and this might have increased the risk of asking leading questions favouring the intervention when conducting the interviews. This could also be true for the students' relationship with their preceptor who also was the main mentor of the primary investigator. Participants might have felt uneasy about potentially giving more negative comments about the preceptor when they knew it also was the mentor of the primary investigator. To prevent as much social desirability bias as possible in this case, the participants were ensured that the preceptor would not gain access to the transcripts of the interviews or examine them on their final practical exam. This was also taken into account when coding and analysing the transcripts by applying the second coder approach. Social desirability bias is hard to avoid when doing qualitative research, but by being aware of such possible biases, the potential impact on the analysis and results can be minimized.

The group of students was limited to eight students, and these were students who applied for the Link program because they wanted to learn by having more clinical teaching sessions and self-study at the expense of lectures. This could have caused the experiences from the eight Link student to possibly be more positive towards learning in a clinical setting because they probably preferred this from the start. It could also have caused more negative feedback from the participants as they had a broad experience from clinical teaching sessions and might have held high standards. Which types of clinical teaching and earlier experiences that were compared to the student-run outpatient clinic in dermatology will consequently have had an impact on the students' experiences. More students from both programs could have given a broader set of experience and more insight into this issue.

The data was analysed mainly by the main investigator who also conducted the interviews. This could be both an advantage and a disadvantage. An advantage because being present during the interviews made the primary investigator able to use body language and intonation to better understand what the students meant when talking. It could also be a disadvantage because memory of the chemistry with the participant and the atmosphere during the interview might affect how the transcript was interpreted later. The potential impact of this was reduced by having a second coder.

The timing of the interviews should also be considered. All students were interviewed after attending the clinical teaching in dermatology two times, except one student who was interviewed after three sessions. While some were interviewed quite early in the semester, others were interviewed closer to the exam. This might affect their attitude towards and perception of the clinical teaching. For instance, a student interviewed two months before the exam could be more relaxed and focused on learning skills and knowledge for future work, while a student interviewed a couple of weeks before the exam might be more focused on passing this formal assessment. The timing of the interviews could also have affected the students' ability to evaluate how much they had learned from attending clinical teaching in dermatology. As mentioned, desirable difficulty is considered an effective tool for learning, but students can often struggle to evaluate whether the challenges were too hard or not while attending the teaching sessions. This may potentially be better be evaluated by the same students at a later stage. Nevertheless, it should be considered whether the students in the future should be informed about pedagogical choices, such as this one, being made before attending clinical teaching, and thus make them feel more relaxed when feeling unprepared and lacking in skills or knowledge.

Conclusions

This qualitative study aimed to explore students' experiences regarding learning and motivation during clinical teaching in a student-run outpatient clinic in dermatology. A predictable learning environment where the students were given freedom to test their limits in clinical skills within safe frames was appreciated by the students. Formative assessment throughout the clinical teaching sessions was perceived as very valuable, as it helped students identify knowledge gaps and make a plan to fill them. Authentic learning was regarded as important by the students because it gave them valuable experience to build knowledge on further on. This learning environment which students perceived as safe and authentic, together with the opportunity to monitor progress through formative assessment, can be describes as a "formative playground".

Clinical teaching is regarded as an essential part of medical education, and much time and resources are allocated to this purpose. It is important for both faculty and students that these sessions are as

effective as possible. Exploring techniques that students or preceptors can use to enhance learning, and new ways to organize clinical teaching in order to achieve better and more effective learning, are important areas for further research in medical education.

Bibliography

Bell, B. and Cowie, B. (2001) 'The characteristics of formative assessment in science education', *Science Education*, 85(5), pp. 536-553. https://doi.org/10.1002/sce.1022

Bjork, R. A. (1994) 'Memory and Metamemory Considerations in the Training fo Human Beings', in Metcalfe, B. D. P. J., Metcalfe, J. and Shimamura, A. P. (eds.) *Metacognition: Knowing about Knowing*. MIT Press.

Bjork, R. A. (2018) 'Being Suspicious of the Sense of Ease and Undeterred by the Sense of Difficulty: Looking Back at Schmidt and Bjork (1992)', *Perspectives on Psychological Science*, 13(2), pp. 146-148. https://doi.org/10.1177/1745691617690642

Callegaro, M. (2011) 'Social Desirability', in Lavrakas, P. J. (ed.) *Encyclopedia of Survey Research Methods*. Thousand Oaks, California.

Cambridge International (2017) *Active learning*. Available at: https://www.cambridgeinternational.org/Images/271174-active-learning.pdf (Accessed: 27.01).

Cook, D. A. and Artino, A. R., Jr. (2016) 'Motivation to learn: an overview of contemporary theories', *Med Educ*, 50(10), pp. 997-1014. https://doi.org/10.1111/medu.13074

Dedoose (2019) 'Online platform for analyzing qualitative data.', (8.3.10). Available at: https://app.dedoose.com/App/?Version=8.3.10.

Harding, J. (2013) *Qualitative Data Analysis from Start to Finish*. UK: SAGE.

Hattie, J. and Timperley, H. (2016) 'The Power of Feedback', *Review of Educational Research*, 77(1), pp. 81-112. https://doi.org/10.3102/003465430298487

Konopasek, L., Norcini, J. and Krupat, E. (2016) 'Focusing on the Formative: Building an Assessment System Aimed at Student Growth and Development', *Acad Med*, 91(11), pp. 1492-1497. https://doi.org/10.1097/ACM.0000000000001171

Kusurkar, R. A., Ten Cate, T. J., van Asperen, M. and Croiset, G. (2011) 'Motivation as an independent and a dependent variable in medical education: a review of the literature', *Med Teach*, 33(5), pp. e242-62. https://doi.org/10.3109/0142159X.2011.558539

Larsen, D. P., Butler, A. C. and Roediger, H. L., 3rd (2008) 'Test-enhanced learning in medical education', *Med Educ*, 42(10), pp. 959-66. https://doi.org/10.1111/j.1365-2923.2008.03124.x

Lillebo, B. (2019) *Fjerde studieår i NTNU Link*. Available at: https://www.ntnu.no/blogger/link/286/.

McCoy, L., Pettit, R. K., Kellar, C., Morgan, C. (2018) 'Tracking Active Learning in the Medicine School Curriculum: A Learning-Centred Approach', *Journal of Medical Education and Curricular Development*, 5,

Ng, S., Lingard, L., Kennedy, T. J., 'Qualitative research in Medical Education: Methodologies and methods ',

NTNU (2018) *NTNU Link - Desentralisert legeutdanning*. Available at: https://innsida.ntnu.no/wiki/-/wiki/Norsk/Legeutdanning+i+Nord-Tr%C3%B8ndelag (Accessed: 27.01).

Patton, M. Q. (2002) *Qualitative research & evaluation methods*. Third edn. Thousand Oaks, Calif.: Sage Publications.

Peters, M. and Ten Cate, O. (2014) 'Bedside teaching in medical education: a literature review', *Perspect Med Educ*, 3(2), pp. 76-88. https://doi.org/10.1007/s40037-013-0083-y

Ramani, S. and Leinster, S. (2008) 'AMEE Guide no. 34: Teaching in the clinical environment', *Med Teach*, 30(4), pp. 347-64. https://doi.org/10.1080/01421590802061613
Roediger, H. L. and Pyc, M. A. (2012) 'Inexpensive techniques to improve education: Applying cognitive psychology to enhance educational practice', *Journal of Applied Research in Memory and Cognition*, 1(4), pp. 242-248. https://doi.org/10.1016/j.jarmac.2012.09.002
Roediger Iii, H. L., Putnam, A. L. and Smith, M. A. (2011) 'Ten Benefits of Testing and Their Applications to Educational Practice', in, pp. 1-36.
Salminen, H., Ohman, E. and Stenfors-Hayes, T. (2016) 'Medical students' feedback regarding their clinical learning environment in primary healthcare: a qualitative study', *BMC Med Educ*, 16(1), p. 313. https://doi.org/10.1186/s12909-016-0837-4
Schutte, T., Tichelaar, J., Dekker, R. S., van Agtmael, M. A., et al. (2015) 'Learning in student-run clinics: a systematic review', *Med Educ*, 49(3), pp. 249-63. https://doi.org/10.1111/medu.12625
Sick, B., Sheldon, L., Ajer, K., Wang, Q., et al. (2014) 'The student-run free clinic: an ideal site to teach interprofessional education?', *J Interprof Care*, 28(5), pp. 413-8. https://doi.org/10.3109/13561820.2014.907779
Spencer, J. (2003) 'Learning and teaching in the clinical environment', *BMJ*, 326(15 MARCH), p. 4,
Strasser, R. and Hirsh, D. (2011) 'Longitudinal integrated clerkships: transforming medical education worldwide?', *Medical Education*, 45(5), pp. 436-437. https://doi.org/10.1111/j.1365-2923.2011.03939.x
Stuhlmiller, C. M. and Tolchard, B. (2015) 'Developing a student-led health and wellbeing clinic in an underserved community: collaborative learning, health outcomes and cost savings', *BMC Nurs*, 14, p. 32. https://doi.org/10.1186/s12912-015-0083-9
Swartz, M. K. (2016) 'Promoting Authentic Learning for Our Students', *J Pediatr Health Care*, 30(5), p. 405. https://doi.org/10.1016/j.pedhc.2016.06.003
Tavakol, M., Sandars, J., (2015) 'AMEE guide 90: Quantitative and Qualitative methods in Medical Education research', *Medical Teacher*,
Taylor, D. C. and Hamdy, H. (2013) 'Adult learning theories: implications for learning and teaching in medical education: AMEE Guide No. 83', *Med Teach*, 35(11), pp. e1561-72. https://doi.org/10.3109/0142159X.2013.828153
Wang, T. and Bhakta, H. (2013) 'A new model for interprofessional collaboration at a student-run free clinic', *Journal of Interprofessional Care*, 27(4), pp. 339-340. https://doi.org/10.3109/13561820.2012.761598
Wiggins, G. (2012) '7 Keys to Effective Feedback ', *Educational Leadership*, 70(September 2012),
Wiliam, D. (2011) 'What is assessment for learning?', *Studies in Educational Evaluation*, 37(1), pp. 3-14. https://doi.org/10.1016/j.stueduc.2011.03.001

Appendix

Interview guide (in Norwegian):

Tittel på prosjekt

«Exploring the participating students' experiences with motivation and learning through their engagement in a student-run dermatology outpatient clinic."

Tema for intervju

Motivasjon

Læring

Opplevelse av læringsutbytte

Introduksjon

Hei. Tusen takk for at du stiller opp til intervju. Som jeg har nevnt i infomail er dette en del av hovedoppgaven min som skal handle om motivasjon og læring i praksis på studiet, og da spesielt dermatologipraksisen du har dette semesteret. Jeg regner med at intervjuet vil ta mellom tre kvarter og en time, høres det greit ut?

Jeg vil igjen understreke at alt du sier her vil bli behandlet konfidensielt og anonymisert i arbeidet videre. Det er kun jeg som kommer til å ha tilgang til og lytte til lydfilene. Det du sier vil heller ikke kunne påvirke undervisningen du får nå eller eksamenen din på noen måte. Det er viktig at du forteller alt du tenker på, enten det er negativt eller positivt – jeg er interessert i begge deler.

Selv om dette blir anonymisert har du selvfølgelig fortsatt taushetsplikt overfor pasientene, så husk å ikke nevne navn eller andre direkte identifiserbare opplysninger om dem når du forteller om opplevelser fra uketjenesten.

Har du noen spørsmål før vi starter?

Spørsmål

1) Fortell meg om en av pasientene som du møtte.
    a. Hva skjedde? Hva tenkte du da? Hvorfor?
    b. Hva var bra/dårlig med det?

c. Fortell om den første konsultasjonen du hadde på poliklinikken

d. Hva fungerte bra? – Hvorfor? – Fortell/gi eksempel?

e. Hva fungerte mindre bra? – Hvorfor? – Fortell/gi eksempel?

2) Kan du fortelle litt om hva du tenkte da du bestemte deg for å søke Link?

a. Si noe om hva du tenker om programmet så langt?

b. Hvordan synes du det er å ha mye praksis?

3) Nå har du jo prøvd en del ulike former for undervisning og jobbing på egenhånd i løpet av mer enn tre år på studiet. Hva synes du selv at du lærer mye av?

Nå har jeg fått vite litt om hvordan du synes det er å være med på NTNU Link, og videre tenkte jeg vi kunne fokusere på uketjenesten i dermatologi:

4) Nå har du jo møtt 2-3 pasienter på uketjeneste i dermatolog, og fortalt om en av dem: Kan du fortelle om noe du opplevde som du syntes var vanskelig eller ikke følte du fikk til?

a. Fortelle detaljert om konkrete eksempler

b. Hvorfor var det vanskelig?

c. Hvor trygg føler du deg på å gjøre det samme nå?

d. Vet du hvordan du skal bli trygg på det?

5) Kan du fortelle om noe som du følte at du fikk til/noe som gikk (kjempe)bra?

a. Fortelle detaljert om konkrete eksempler

b. Hvorfor var det vanskelig?

c. Hvor trygg føler du deg på å gjøre det samme nå?

d. Vet du hvordan du skal bli trygg på det?

Nå har du snakket en del om det du har lært og erfart. Videre vil jeg høre litt mer om motivasjon, og da lurer jeg først på:

6) Hva er viktig for at du skal være motivert for et fag/tema?

7) Hvordan var motivasjonen din for dermatologi før du hadde hatt undervisning og praksis i faget?

8) Hva er det mest nyttige du sitter igjen med av kunnskap etter uketjeneste i dermatologi?

a. Hva tenker du det er nyttig for?

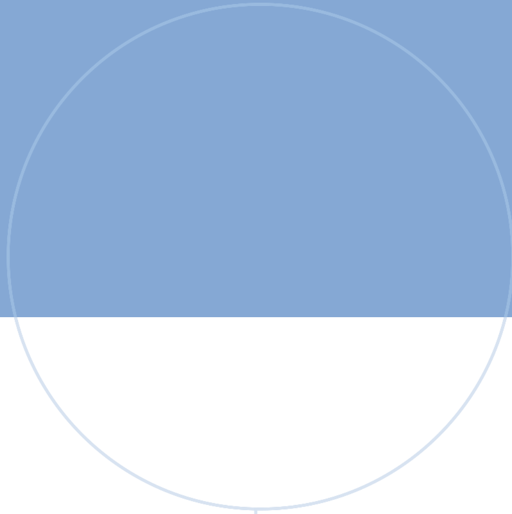
9) I hvilken grad synes du at du som student fikk oppleve hvordan det er å jobbe som dermatolog?

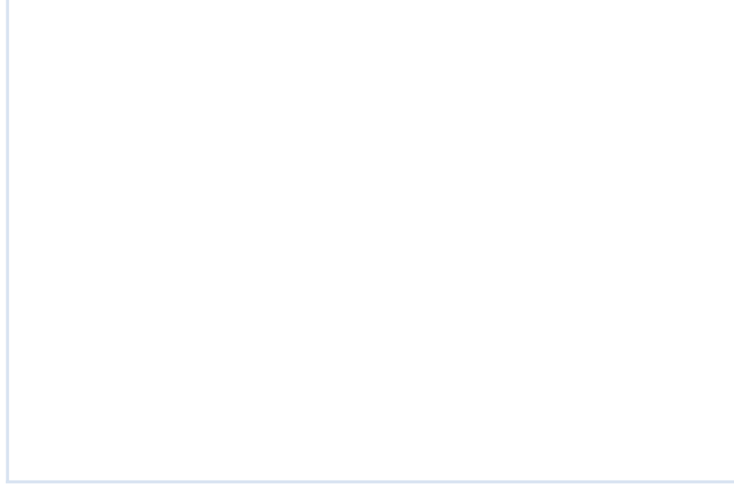
Har du noen spørsmål du vil stille før vi avslutter?

Er det noe viktig jeg ikke har spurt deg om som du vil dele for at jeg skal forstå din opplevelse av student-drevet hudpoliklinikk? Andre kommentarer?

Avslutning

Takk igjen for at du stilte opp! Som sagt vil dette lydopptaket behandles konfidensielt og lagres trygt, og det er kun jeg som kommer til å høre på lydfilen. Jeg vil anonymisere innholdet når jeg transkriberer det og jobber videre med å analysere det. Du må gjerne ta kontakt når som helst om det er noe!





NTNU

Norwegian University of
Science and Technology