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The Netherlands

Student engagement in research in medical education

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Citation

Vereijken, M. W. C. (2018, May 22). *Student engagement in research in medical education*. ICLON PhD Dissertation Series. Retrieved from <https://hdl.handle.net/1887/62353>

Version: Not Applicable (or Unknown)

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Note: To cite this publication please use the final published version (if applicable).

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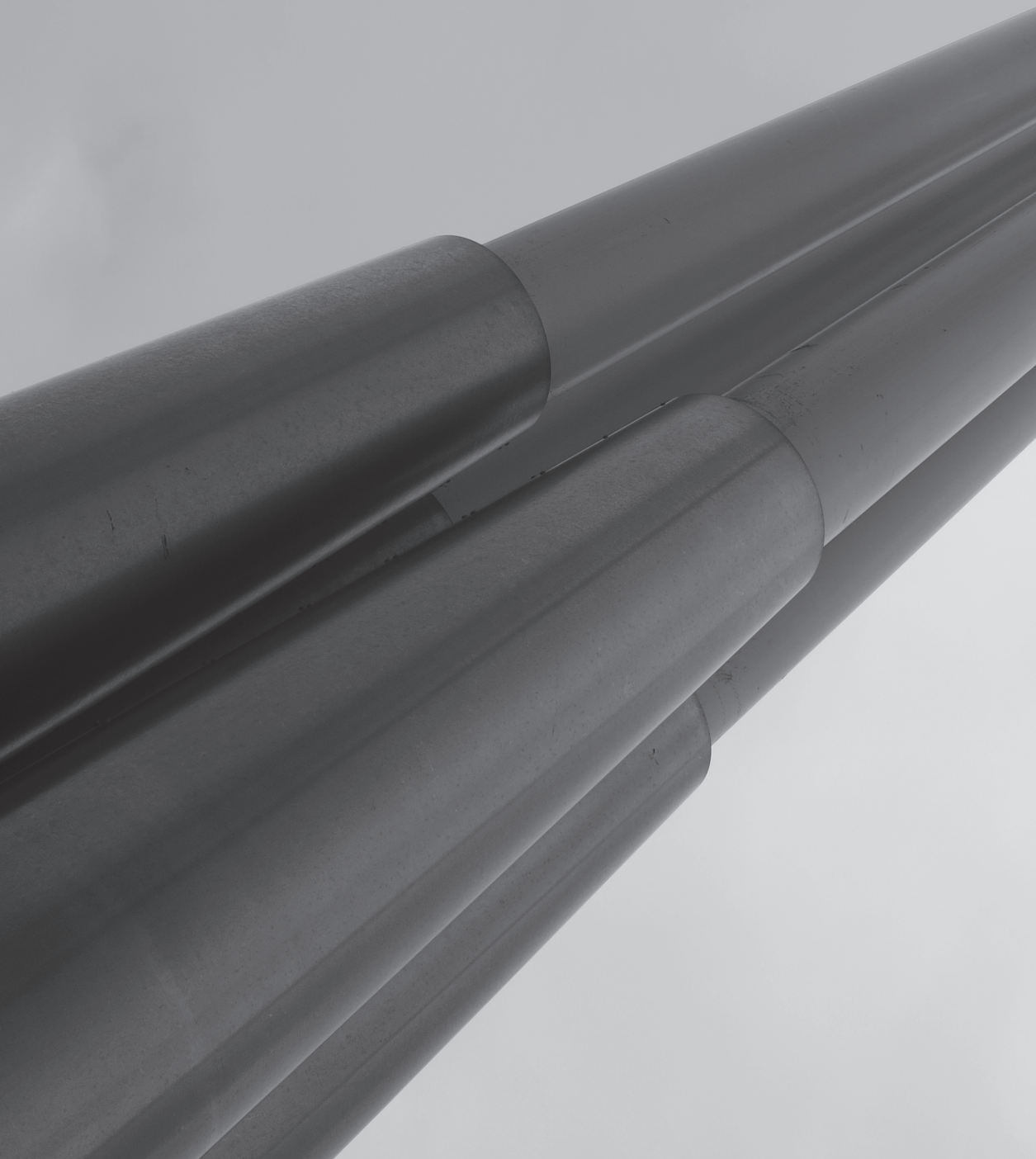
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Title: Student engagement in research in medical education

Issue Date: 2018-05-22

Appendices



Appendix 1. The adapted version of the Student Perception of Research Integration Questionnaire for medical education (in Dutch)

Deel 1 Studentpercepties van onderzoek

Item	Tijdens dit studiejaar...	Schaal
1.	leerde ik het onderzoek van mijn docenten kennen.	Actueel onderzoek
2.	was het wetenschappelijke onderzoeksproces een essentieel onderdeel van de leerstof.	Kritische reflectie
3.	voelde ik me aangespoord om me verder te verdiepen in wetenschappelijk onderzoek.	Motivatie voor onderzoek
4.	werd aandacht besteed aan onderzoeksmethodologie.	Kritische reflectie
5.	leerde ik te letten op de manier waarop een onderzoek uitgevoerd wordt.	Kritische reflectie
6.	nam ik kennis over onderzoeksuitkomsten tot mij.	Kritische reflectie
7.	werd mijn bijdrage aan wetenschappelijk onderzoek op prijs gesteld.	Participatie in onderzoek
8.	kwam ik in aanraking met het onderzoek van mijn docenten.	Actueel onderzoek
9.	was mijn aandeel in het onderzoek van belang.	Participatie in onderzoek
10.	werd mijn besef van de vraagstellingen waar wetenschappelijke onderzoekers op dit moment aan werken vergroot.	Actueel onderzoek
11.	leerde ik wat voor onderzoek er gedaan wordt in de geneeskunde.	Actueel onderzoek
12.	werd mijn interesse in onderzoek in de geneeskunde vergroot.	Motivatie voor onderzoek
13.	leverde ik een bijdrage aan de wetenschappelijke ontwikkeling in de geneeskunde.	Participatie in onderzoek
14.	voelde ik me als student betrokken bij wetenschappelijk onderzoek.	Participatie in onderzoek
15.	werden de verbanden met de actuele onderzoekspraktijk gelegd.	Actueel onderzoek
16.	raakte ik betrokken bij het onderzoek van mijn docenten.	Participatie in onderzoek
17.	stimuleerden de docenten mijn interesse en enthousiasme voor onderzoek.	Motivatie voor onderzoek
18.	raakte ik enthousiast over onderzoek in de geneeskunde.	Motivatie voor onderzoek
19.	verzorgden de docenten hun onderwijs op een voor mij adequate manier.	Kwaliteit
20.	konden de docenten de leerstof goed aan mij uitleggen.	Kwaliteit
21.	heb ik een juist beeld ontwikkeld van wat er van mij verwacht werd.	Kwaliteit

Deel 2 Opvattingen over onderzoek

Item	Schaal	
22.	Wetenschappelijke vaardigheden zijn belangrijk voor het artsberoep.	Praktische relevantie
23.	Mijn leren wordt gestimuleerd als het onderwijs doordrongen is van onderzoek.	Relevantie voor leren
24.	De onderzoekscultuur in het LUMC stimuleert mijn leerproces.	Relevantie voor leren
25.	Een wetenschappelijke opleiding is belangrijk voor mij.	Praktische relevantie
26.	Ik vind aandacht voor wetenschap in de opleiding leuk.	Praktische relevantie
27.	Onderwijs waarin veel aandacht is voor wetenschappelijk onderzoek stimuleert mijn leren.	Relevantie voor leren
28.	Ik heb interesse in onderzoek doen.	Praktische relevantie
29.	De opleiding geneeskunde hoort wetenschappelijk te zijn.	Praktische relevantie
30.	Een arts zou zelfstandig onderzoek moeten kunnen doen.	Praktische relevantie

Note. Each item is rated on an agreement scale, a five-point Likert scale ranging from 1 = ‘-’ to 5 = ‘++’. The questionnaire was administered in Dutch and is based on the item wording as reflected in a study by van der Rijst, Visser-Wijnveen, Verstelle and van Driel (2009).

Appendix 2. The adapted version of the Student Perception of Research Integration Questionnaire for medical education (in English)

Section 1 Student perceptions of research

Item	During this year of study...	Scale
1.	I came in contact with my teachers' research.	Current research
2.	the scientific research process was an essential part of the curriculum.	Critical reflection
3.	I was inspired to learn more about research in medicine.	Motivation for research
4.	attention was paid to research methodology.	Critical reflection
5.	I learned to pay attention to the way research is carried out	Critical reflection
6.	I assimilated knowledge about research findings.	Critical reflection
7.	my contribution to the research was valued.	Participation in research
8.	I became familiar with the research carried out by my teachers.	Current research
9.	my participation in the research was important.	Participation in research
10.	my awareness of the research issues that scientific researchers are currently contributing to was increased.	Current research
11.	I learned what kind of studies have been carried out in medicine.	Current research
12.	I became enthusiastic about research in medicine.	Motivation for research
13.	I made a contribution to development in medicine.	Participation in research
14.	as a student I felt involved with the research.	Participation in research
15.	links to current research practices were made.	Current research
16.	I became involved in my teachers' research.	Participation in research
17.	my teachers encouraged personal interest and enthusiasm for research in this field.	Motivation for research
18.	I became enthusiastic about research in medicine.	Motivation for research
19.	the teachers carried out their instruction adequately.	Quality
20.	my teachers were able to explain the subject matter effectively.	Quality
21.	I developed an accurate picture of what was expected of me.	Quality

Section 2 Beliefs regarding research

Item		Scale
22.	Research skills are important for the medical profession.	Practical relevance
23.	My learning is stimulated when education is grounded in research.	Relevance for learning
24.	The research culture at the LUMC stimulates my learning.	Relevance for learning
25.	I find research intensive education important.	Practical relevance
26.	I like a focus on research in the study programme.	Practical relevance
27.	Education in which scientific research is central stimulates my learning.	Relevance for learning
28.	I'm interested in conducting research.	Practical relevance
29.	Medical education should be research intensive.	Practical relevance
30.	A medical doctor should be able to conduct research independently.	Practical relevance

Note. Each item is rated on an agreement scale, a five-point Likert scale ranging from 1 = '-' to 5 = '++'. The questionnaire was administered in Dutch and the translation is based on the item wording as reflected in a recent study by Visser-Wijnveen, van der Rijst and van Driel (2016).

Appendix 3. Grading rubric first-year student research reports (translated from Dutch).

Score per criterion	0	1	2
Consistency			
Introduction	Research question (RQ) is missing; no indication of relevance, no rationale.	Lack of argument(s) underpinning the RQ.	Introduction provides clear arguments underpinning RQ, aim or hypothesis.
Method	Unbalanced in terms of size; either overlong or lacks key information about participants and analysis.	Analysis suits the RQ; mainly replicable, lacks detail.	Clear to the reader; enables replicability appropriate to a short report.
Results	Contains redundant information, students' interpretations or opinions.	Factual display of results; either too limited or too detailed.	Comprehensive and factual display of results.
Discussion	No indication of a limitation; conclusion does not fit RQ and results.	Appropriate conclusion and a limitation; either overgeneralised implications or lacks explanation of results (previous studies).	Results are related to previous or future research; contains limitations, implications, main conclusion & answer to the RQ.
Structural characteristics			
Title	Does not reflect the message, raises different expectations.	Partly reflects the main message.	Covers the main message.
Structure of the text	No order (introduction – method – results – discussion).	In logical order, at times repetition or overlap.	Coherent, to the point, reads easily.
Language (terminology)	Style and spelling errors, inconsistent use of scientific language.	Nearly flawless and consistent use of scientific language.	No errors, consistent use of scientific language.
Comprehensiveness	Text is not confined to key issues. (Abbreviations like MET and QRS are common language).	Key issues are clear; missing are details needed to answer the RQ.	Key issues are clear; contains relevant information in order to answer the RQ.
References	No references.	Some information is missing or not in Vancouver-style.	Full reference list in Vancouver-style.
Tables and figures	Messy, too large or too small on the page; overlaps text.	Make an orderly impression; lay-out does not fully support the text.	Numbered tables, support the message in the text.
Attractiveness abstract	Does not encourage further reading.	Raises the reader's interest.	Report fosters further reading; cannot wait to read more.
Total score report			

Appendix 4. Between-case data matrix of fragments reflecting relationships between dilemmatic space and supervision practices

Code (N _{fragments})	Regulation question (N = 34)	Student needs question (N = 21)	Relational question (N = 16)	Identity question (N = 17)
Practice/ Fostering motivation	'He has to ask me if he gets stuck or when he has a question about the order of the findings in the report. He may try his best regarding his findings, although he needs to ask me when he gets stuck. From my own and others experiences as students I know this is really difficult.' (Anna).	'Sometimes it's difficult to figure out what more you can do to make someone better. Sometimes it's already sufficient'. Interviewer: 'Did you try to figure out what you could do for her during this meeting?' 'Yes. This time I asked her, like feedback, at the end of the meeting about things that I could do. It's difficult for me to know what she thinks. [...] Perhaps I'm doing too much for her?' (Linda).	'She indicates that she isn't quite calm yet. I try to calm her down. She knows herself, she told me: "Every now and then I can't put my mind to rest. It [the research project] isn't easily out of my head". She keeps telling me that. And still this feeling isn't gone, she's trying to ignore it. Now, we're talking about it again.' (Linda). + 2 fragments; Peter, Anna.	'Because she doesn't respond with "oh yeah" right away on my instruction I thought I apparently needed something else. Perhaps it's better for her to come up with another example. I prefer to, I reckon. I prefer to give hints that she can fill in, over explaining exactly what she has to do. Although I seem to do that every now and then.' (Ricky). + 1 fragment; Paul.
Practice/ Giving directions	'What I've noticed is that I'm going to lecture him at a certain point. I often do that. I leave him more or less space to come up with his own things. I've noticed that during the supervision meeting, I've interrupted him once or twice. [Pointing at the video] Look, things like this. I already know he's got ideas about this, we've discussed this before. Despite that I tell him what the aim was and what we're going to do. Then I quietly wonder how that comes across to him, because I am determining the direction.' (Robert). + 13 fragments; Peter, Vera, Mary, Paul, Jacky, Ricky.	'This project is completely different from what was planned previously. The outcome is just not what we expected. That is always difficult, but the most important thing, which is crucial for atherosclerosis is that blood cholesterol level goes down. And that wasn't the case here. She didn't discuss that on the poster. She talks about [concept], but that was something I thought: Isn't that on the poster? That's a bit strange, because that's key. Apparently, I've not explained it well, or she still missed something.' (Vera). + 2 fragments; Jacky.	'Here we talk about the report. She isn't quite at the level that I expect her to be. I won't beat about the bush this time. Normally, eh, I always try to be polite. There's still a lot to be done, there really should be ... You're [the student] often unclear. You leave the reader with a whole lot more questions than answers. It still isn't clear what you mean.' (Peter). + 1 fragment; Vera.	'Because she doesn't respond with "oh yeah" right away on my instruction I thought I apparently needed something else. Perhaps it's better for her to come up with another example. I prefer to, I reckon. I prefer to give hints that she can fill in, over explaining exactly what she has to do. Although I seem to do that every now and then.' (Ricky). + 1 fragment; Paul.

Code (N _{fragments})	Regulation question (N = 34)	Student needs question (N = 21)	Relational question (N = 16)	Identity question (N = 17)
Practice/ Promoting knowledge construction	'That's an example that she figures out herself. That's why we meet often in order for her to check whether she's doing it right. Because when she has to do that many samples and she makes a mistake with the first one, she can go on, but she's to do it again.' (Linda). + 1 fragment; Vera. 'Here we are discussing vitamin D and [concept], which we didn't find in the data. Do we've to include this? No, we mustn't do that. So, we have discussions about this.' (Peter).	'I've asked her "Did you forget?" Because I expected her to forget this. After that, I explained to her that it's very difficult for me to figure out whether she forgets, she doesn't agree or she can't do it and needs help.' (Vera). + 6 fragments; Brenda, Jacky, Ryan.	'Every now and then you [the student] have a question and you want to hear the right answer. I don't want to ask questions all the time, but confirm his thoughts as well. He's on the right line of reasoning here. He understands.' (Brenda). + 1 fragment; Brenda.	'I doubt whether it came out pretty quickly that I've asked how he's doing. Usually he answers me with specific questions. [video fragment]. Now, I should have let him explain more himself.' (Mary). + 1 fragment; Linda.
Practice/ Thinking along				
Practice/ Creating awareness			'Actually, I want to tell him, because he's to be aware of that. He has to try to think about the Dutch words to choose when he reads a piece of English text that he wants to use in his report. That's what I try to tell him.' (Anna).	'I have to tell him that I've noticed he's using [a translation engine] to translate and copy text. Yes, I have to tell him, otherwise he'll keep doing this. And his other supervisor at the school [university] is also going to read this.' (Anna).

Code (N _{fragments})	Regulation question (N = 34)	Student needs question (N = 21)	Relational question (N = 16)	Identity question (N = 17)
Actor/su- pervisor	'From my experience with him [not finishing his project before the next course]... I didn't pose a deadline back then. Like when you don't submit your research proposal by the end of December, you aren't allowed to start your research project. He didn't submit it in time, but there were no consequences for him. I've learned from that.' (Vera). + 7 fragments; Brenda, Mary, Robert.	'The other student I supervise... I just don't know what to do to make it better. It's really annoying when [the student] doesn't respond. If I were the student, I'd go and ask, while I leave the samples in the nitrogen. Now everything is defrosted and ruined. I quietly wonder whether that's my fault, or his, or our interaction? I don't understand. I just don't know... There are so many examples of this.' (Vera). + 3 fragments; Vera, Brenda, Mary.	'I try to keep it friendly and a little directive, but I notice that's difficult for me. I don't ask myself how that comes across to the student, so I find that hard.' (Robert) + 4 fragments; Robert, Anna, Linda, Mary.	'What's difficult is that I'm not an expert in this literature. So, ehh... Basically, he's helping a colleague with his research (Robert). + 5 fragments; Brenda, Vera, Linda.
Actor/stu- dent	'[...] On the one hand, he [the student] wants a structured project. On the other hand, he has indicated that he wants to do research independently. That was one of his learning goals for his final student research project. He wants an idea of where to start when he has a research project or research question again. For me, that's seeking a balance between those two.' (Mary) + 1 fragment; Anna.	'And that's what I'm most concerned about. Are the tasks that I propose to her impossible to do? Yes, because she says she can't do it. Well... Is it too difficult for her? Or is she just cutting too many corners?' (Peter) + 5 fragments; Anna, Peter, Vera, Mary, Ricky.	'The previous meeting was with his other supervisor. She simply neglected half of his tables and told him to focus on this. I know that he's interested in that stuff and started from there. I wanted to know if he's OK now.' (Brenda). + 1 fragment; (Linda)	'Eventually he had just few specific questions about this. I really expected him to have questions, such as "How is this and that done?". Then I found out he'd already e-mailed his other supervisor without notifying me.' (Mary).

Code (N _{fragments})	Regulation question (N = 34)	Student needs question (N = 21)	Relational question (N = 16)	Identity question (N = 17)
Actor/other				'My supervisor told me that I have to be stricter for students. I don't know. I find that difficult in this case.' (Mary).
Rest/planning	'At the end of the conversation, we discuss whether this planning is realistic. She raises the bar for herself. Too high, I think. But, hey, it's her internship. I keep the option open that this work isn't finished by Friday. And I wouldn't mind. Her assessment is on Monday. So if it's finished before then it's ok. But she raises the bar herself, wanting to finish this on Friday.' (Peter). + 5 fragments; Vera, Paul, Linda.		'I see her everyday anyway. I think it's important, I think, that you see people and talk to other colleagues. You know what everyone is doing and you know what their day is really like. I'm not going around talking nonstop for an hour with my cup of coffee, but I'll walk around every morning at nine o'clock. "How's it going? Today you did this and this and do this." That's OK, I think.' (Linda).	'I've said to her, lets cancel that, because there is enough to do for those other two things. Things have to be completed, because we have to show something to the board of examiners and we need something to publish.' (Peter).
Rest/supervision aim				'I find it difficult to provide feedback on this kind of rules of engagement [the student being late, the student sending an e-mail to the senior research without mentioning the supervisor]. I find it difficult, because it's only about how I like it.' (Mary). + 2 fragments; Anna.

Appendix 5. Coding scheme and examples of practices, actors and context factors using noticing as sensitizing concept

Code (N _{fragments})	Description	Example
Practice/Fostering motivation (N = 26)	The supervisor acts at the level of the relationship with the student without reference to the research project. These fragments are about motivating the student and making supervision pleasant.	[About the senior researcher rejecting parts of the student's work]. I'd planned in advance to reflect with him on his experience. That sounds like a big issue, although he'd told me it didn't keep him awake at night. [...] I completely understand. The first time that happens it's really disappointing. That's why I got back to him about it. (Brenda).
Practice/Giving directions (N = 133)	The supervisor gives the student directions on how to make progress with the research process or product. Examples are providing the student with feedback, using hints and explaining how a task should be done.	Let's just say, here, I impose my vision upon him. Like I would have done it this way. Like giving examples, and explaining that I would do it in a certain way. (Robert).
Practice/Promoting knowledge construction (N = 119)	The supervisors check the student's knowledge construction or interpretations in order to assess the knowledge level, check knowledge reproduction, make student's reasoning explicit, and structure or confirm student's findings.	I try again to check her knowledge about the introduction, whether she knows the rules. Well, rules... I told her before and now I'm checking whether she remembers. (Ryan).
Practice/Thinking along (N = 6)	The supervisor thinks along with the student. There is ongoing discussion between the student and the supervisor. This is a collaboration between two researchers.	At this point I'm in doubt about whether I can believe her explanation [about her findings]. It's a nice explanation, which could be true, we can expect this [valid explanation]. (Paul).
Practice/Creating awareness (N = 13)	The supervisor makes the student aware that the choices made during the research process need to be underpinned by the researcher. While doing this the supervisor can refer to earlier discussions and choices made in the research project.	She doesn't have a very clear idea yet. I mean, she wrote an introduction, she thought it was a nice story. But I've had to make her aware that writing an introduction is very hard, that there are certain rules for that, and so on. (Ryan).
Actor/supervisor (N = 50)	The supervisor mentions him- or herself, without reference to pedagogy. The fragments are about supervisor characteristics, knowledge and experiences.	Because I'm a very positive person. I don't quickly feel that things aren't good enough, we've to leave this part out [of the research report]. I always see the big picture. (Linda).

Code (N _{fragments})	Description	Example
Actor/student (N = 40)	The supervisor mentions a student, without reference to pedagogy. The supervisor describes personal student characteristics or 'type'.	Yes, she's very shy. That might be inherent in her cultural background [...]. (Vera).
Actor/other (N = 6)	The supervisor mentions someone other than her/himself or a student. For example the supervisors' supervisor. No practices are mentioned in these fragments.	I don't want her to present this text on the poster at the conference. [...] I'm sure, our boss is going to assess the poster. I already know he wouldn't agree with this. I'll try to change this before it's sent to him. (Vera).
Rest/planning (N = 42)	The supervisor is worried that the research project may take too long. Because of this, (s)he makes decisions for the student or asks the student to plan the next activities carefully.	Especially since I'm not here next week, so they really need to work independently. That's what I wanted to discuss. What are you going to do next week? (Jacky).
Rest/supervision aim (N = 10)	The supervisor explains his/her ideas about good research supervision and undergraduate education. These fragments may also include curriculum goals, content of the educational programme and perceived benefits of undergraduate research.	I had an idea about what he could do in his research project. However, my supervisor didn't feel that had to be done. She says the evidence is convincing, there's no need for another validation. However, I was thinking it would be good for him, because he's learned about this in his undergraduate programme. (Anna).

Publications and presentations



Scientific publications

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H., & Dekker, F.W. (submitted). Engaging students in authentic research practices throughout the curriculum in medical education: Student beliefs and perceptions.

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H., & Dekker, F.W. (2017). Student learning outcomes, perceptions and beliefs in the context of strengthening research integration into the first year of medical education. *Advances in Health Science Education*. Advance online publication. doi: 10.1007/s10459-017-9803-0

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H., & Dekker, F.W. (2017). Novice supervisors' practices and dilemmatic space in supervision of students' research projects. *Teaching in Higher Education*. Advance online publication. doi: 10.1080/13562517.2017.1414791

Vereijken, M.W.C., van der Rijst, R.M., de Beaufort, A.J., van Driel, J.H., & Dekker, F.W. (2016). Fostering first-year student learning through research integration into teaching: Student perceptions, beliefs regarding the value of research and student achievement. *Innovations in Education and Teaching International*. Advance online publication. doi: 10.1080/14703297.2016.1260490.

Vereijken, M.W.C., Kruidering-Hall, M., de Jong, P.G.M., de Beaufort, A.J., & Dekker, F. W. (2013). Scientific education early in the curriculum using a constructivist approach on learning. *Perspectives on Medical Education*, 2, 209-215. doi: 10.1007/s40037-013-0072-1

Janmaat, V.T., Kortekaas, K.E., Vereijken, M., Schoones, J.W., Hylckama Vlieg, A., & Dekker, F.W. (2013). Research-tutored learning; an effective way for students to benefit research. *Medical Science Educator*, 23(2), 269-277. doi: 10.1007/BF03341630

Kooloos, J.G., Klaassen, T., Vereijken, M., van Kuppeveld, S., Bolhuis, S., & Vorstenbosch, M. (2011). Collaborative group work: Effects of group size and assignment structure on learning gain, student satisfaction and perceived participation. *Medical Teacher*, 33(12), 983-988. doi: 10.3109/0142159X.2011.588733

Other publications

Day, I., Huisman, B., & Vereijken, M. (2016). *Exploring freedom and control in global higher education: Een conferentieverlag van de jaarlijkse bijeenkomst van de Society for Research into Higher Education* [In Dutch: A report of the annual conference of the Society for Research into Higher Education]. *Onderzoek van Onderwijs*, 46(1), 19-21.

Paper presentations and symposia

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H., & Dekker, F.W. (2017, June). *Student engagement in research in health science education*. Paper presented at the annual conference of the Higher Education Research and Development Society for Australasia, Sydney, NSW, Australia.

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H., & Dekker, F.W. (2016, December). *Novice supervisors' research supervision pedagogies and dilemmatic space in students' research projects*. Paper presented at the annual conference of the Society for Research into Higher Education, Newport, Wales, United Kingdom.

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H., & Dekker, F.W. (2016, December). *Novice supervisors' research supervision pedagogies and dilemmatic space in students' research projects*. Paper presented at the Newer Researcher Conference of the Society for Research into Higher Education, Newport, Wales, United Kingdom.

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H. & Dekker, F.W. (2016, November). *Vroeg op weg naar succes? Het effect van een sterkere onderzoek integratie in de bachelor op studieprestaties in het eerste jaar geneeskunde* [In Dutch: The influence of strengthening research integrated into undergraduate teaching on learning outcomes in the first year of medical education]. Paper presented at the annual conference of the Netherlands Association for Medical Education, Egmond aan Zee, the Netherlands.

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H., & Dekker, F.W. (2016, July). *Improving first-year student learning outcomes by strengthening research integration into teaching*. Paper presented at the Higher Education Conference, Amsterdam, the Netherlands.

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H. & Dekker, F.W. (2016, June). *Leerproces bevorderen door verwevenheid van onderzoek en onderwijs. Een vergelijkende cohortstudie* [In Dutch: Stimulating student learning through research integrated into teaching. A comparative cohort study]. Paper presented at the Onderwijs Research Dagen, Rotterdam, the Netherlands.

Vereijken, M.W.C., Buis, D.T.P., Dijkerman, M., Adelmeijer, E.G.M., le Cessie, S., Swenne, C.A., de Beaufort, A.J., & Dekker, F.W. (2015, November). *Onderzoekscompetenties vroeg in de bachelor: ontwikkeling en relatieve betrouwbaarheid van een rubric voor beoordeling van onderzoeksverslagen* [In Dutch: Research competencies in undergraduate education: Development and reliability of an assessment rubric for student research reports]. Paper presented at the annual research conference of the Netherlands Association for Medical Education, Rotterdam, the Netherlands.

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H. & Dekker, F.W. (2014, November). *Wetenschappelijke vorming in de bachelor* [In Dutch: Scientific training in undergraduate education]. Paper presented at the annual research conference of the Netherlands Association for Medical Education, Egmond aan Zee, the Netherlands.

Vereijken, M.W.C., van der Rijst, R.M., de Beaufort, A.J., van Driel, J.H. & Dekker, F.W. (2014, September). Research-based learning in undergraduate medical education. Paper presented in D. Griffioen (chair), *Critically examining the relationships between research, teaching and students' learning in higher education*. Symposium conducted at the annual conference of the European Educational Research Association, Porto, Portugal.

Vereijken, M.W.C., van der Rijst, R.M., de Beaufort, A.J., van Driel, J.H. & Dekker, F.W. (2014, April). First-year student perceptions of research in an educational reform. Paper presented in M. Mulder (chair), *Barriers and facilitators of integrating research in higher education*. Symposium conducted at the annual conference of the American Educational Research Association, Philadelphia, PA, USA.

Posters/round tables

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H., & Dekker, F.W. (2015, August). *Towards a research pedagogy: Supervisors' knowledge of interventions in student research supervision*. Round table presented at the Junior Research Pre-Conference of the European Association for Research on Learning and Instruction, Limassol, Cyprus.

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H., & Dekker, F.W. (2015, June). *Strategieën en overwegingen van begeleiders van onderzoeksstages* [In Dutch: Supervisors' strategies and considerations in students' research projects]. Poster presented at Onderwijs Research Dagen, Leiden, the Netherlands.

Vereijken, M.W.C., van der Rijst, R.M., van Driel, J.H., & Dekker, F.W. (2014, November). *Scaffolding undergraduate research*. Round table presented at the International Fall School of the Dutch Interuniversity Centre for Educational Research, Blankenberge, Belgium.

Curriculum Vitae



Vereijken, M.W.C., van der Rijst., R.M., van Driel, J.H., & Dekker, F.W. (2014, June). *Studiesucces: Research-based learning in de bachelor* [In Dutch: Study success: Research-based learning in undergraduate education]. Poster presented at Onderwijs Research Dagen, Groningen, the Netherlands.

Vereijken, M.W.C., van der Rijst., R.M., van Driel, J.H., & Dekker, F.W. (2015, August). *Strategies in undergraduate research supervision*. Poster presented at the annual conference of the European Association for Research on Learning and Instruction, Limassol, Cyprus.

Vereijken, M.W.C. & Dekker, F.W. (2013, November). *Onderzoek doen: een eigen relevante leerervaring voor alle eerstejaars* [In Dutch: Doing research: An individual and meaningful learning experience for first year students]. Poster presented at the annual conference of the Netherlands Association for Medical Education, Egmond aan Zee, the Netherlands.

Curriculum Vitae

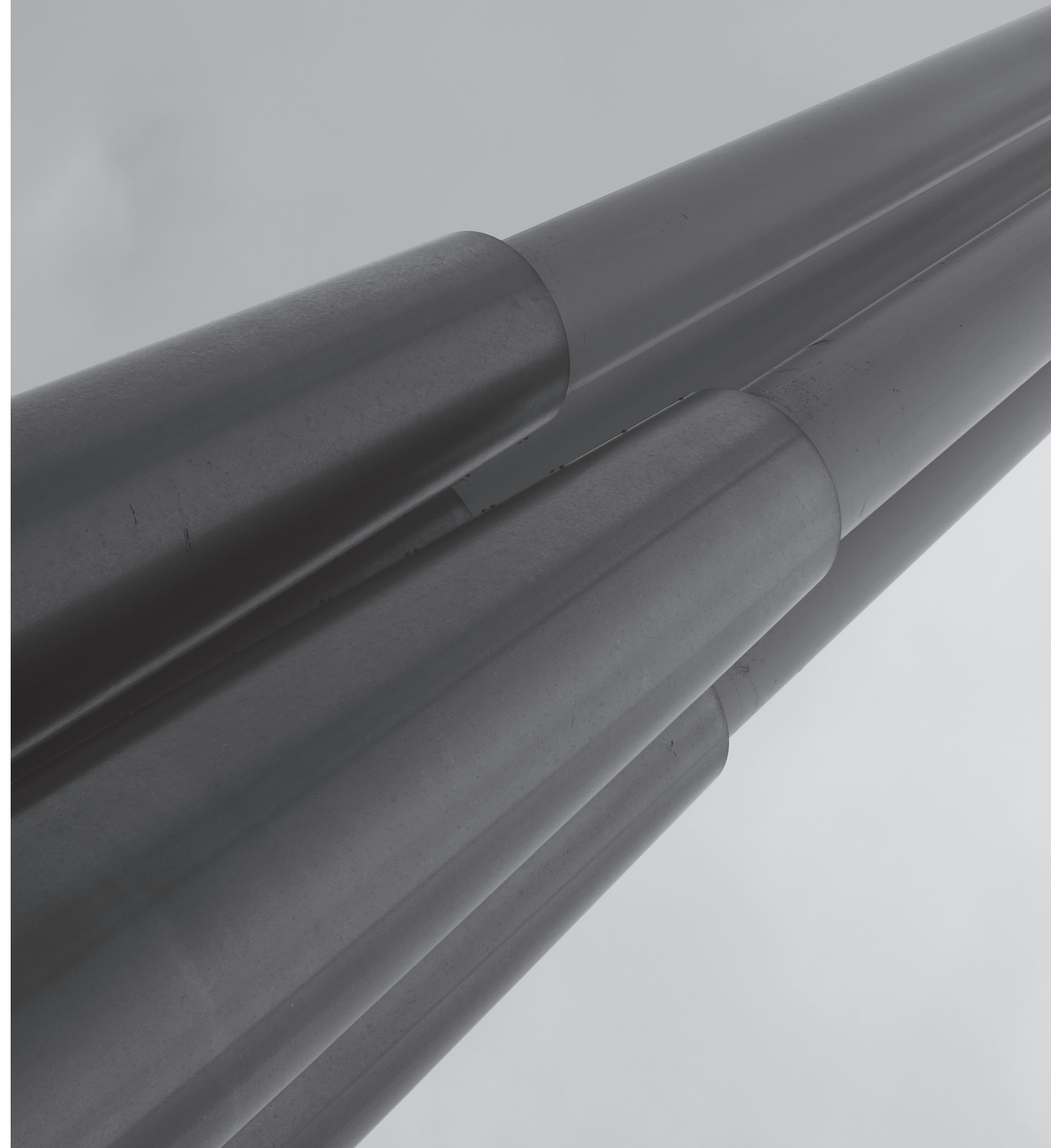
Mayke Vereijken was born in Bergeijk, the Netherlands on 1st September, 1986. She completed her secondary education at the Were Di College in Valkenswaard, graduating in 2004. Afterwards she began her studies at the Radboud University in Nijmegen. She first obtained a bachelor's degree in pedagogical sciences in 2010, before going on to complete a master's degree in educational sciences. During her master's study she specialised in medical education. Her master's thesis covered the affect and coping behaviour of undergraduate medical students during early clinical experiences. After graduating in 2011, she worked as an educational consultant at the Leiden University Medical Center. She also became a member of the special interest group on research integrated into teaching of the Netherlands Association for Medical Education (NVMO).

In 2013, Mayke enrolled as a PhD candidate at ICLON, Leiden University Graduate School of Teaching. Her research project focused on promoting student engagement in research in medical education. Her research was part of a project funded by the Leiden University board that aimed to foster study success. Mayke attended courses and master-classes related to her research topic provided by ICO, the Dutch Interuniversity Center for Educational Research. Since 2014, she has been a co-coordinator of the ICO 'Higher Education' themegroup. In 2017, she participated in organising the annual NVMO PhD student day. Furthermore, she received a visiting student scholarship to Melbourne University, the Australian National University and Macquarie University from the Leiden University Fund. She has presented her research at national (NVMO and ORD) as well as international conferences (AERA, EARLI, HERDSA and SRHE). Additionally, in 2017 she was given the award for the best student paper presentation at the Annual Conference of the Higher Education Research and Development Society of Australasia.

Currently, Mayke is employed as a postdoctoral researcher at the ICLON. She is working on a research project investigating professional development in inquiry-based teaching at international schools with a particular focus on relations between teacher beliefs and inquiry-based teaching practices. Furthermore, she

is employed at the ICLON as a consultant in higher education, focusing on instructional development initiatives for university teachers.

Dankwoord



Dankwoord

Ik kijk terug op een zeer waardevolle promotietijd, waar ik velen dankbaar voor ben. Hier noem ik een paar mensen in het bijzonder.

Allereerst bedank ik het College van Bestuur van de Universiteit Leiden voor het mogelijk maken van dit promotietraject. Ik bedank mijn (co)promotoren die ieder op eigen wijze bij hebben gedragen aan mijn ontwikkeling tot onderzoeker. Jan, jouw scherpe blik heeft mijn werk tot een hoger plan getild. Jij zorgde ervoor dat ik me bleef richten op de grote lijn. Ik heb bewondering voor jouw begeleidingsstijl. Friedo, jij hebt mijn enthousiasme voor onderzoek in het medisch onderwijs aangewakkerd. Ik heb je tijdens mijn promotie opnieuw leren kennen als bevlogen docent en onderzoeker met een heldere visie op het medisch onderwijs. Jouw kritische vragen zijn voor mij van blijvende waarde. Roeland, het was prettig met je samen te werken. Ik vond onze wekelijkse gesprekken zeer inspirerend. Jij moedigde me aan om onderwijskundig onderzoek breed te verkennen.

Dit proefschrift was er niet gekomen zonder de inzet van vele studenten, docenten en onderwijsondersteunend personeel van het LUMC. Ik vond het erg bijzonder mee te mogen kijken met de begeleiders en studenten in de onderzoeksprojecten. Dank voor jullie deelname en openheid.

Van collega's bij het LUMC en het ICLON heb ik veel geleerd. Saskia en Tim, bedankt voor de statistische ondersteuning. Ben en Gerda, veel dank voor jullie hulp bij het analyseren van de interviews. Dank aan iedereen in de onderzoeksgroep voor jullie constructieve commentaren en interesse in (enigszins) PhD-gerelateerde zaken. Bart en Indira, ik vond het fijn samen met jullie op te trekken.

Furthermore, I very much appreciated the meetings with colleagues during ICO courses and (inter)national conferences. A special thanks to professor Angela Brew for bringing me in touch with Australian colleagues, which made my visit such a wonderful experience. During my stay I was given lots of opportunities to discuss my research, thanks to professor Simon Barrie, professor Susan Howitt, professor Keith Trigwell, Heather Verkade, Hannah Schurholz, Denise Higgins, Lilia Mantai and Tai Peseta.

Tot slot bedank ik mijn vrienden, familie en schoonfamilie voor de nodige afleiding en ontspanning. Lieve pap en mam, door jullie steun ben ik gekomen waar ik nu ben. Mam, in gedachten vier je dit feest mee. Lieve Wouter, wij verstaan elkaar in weinig woorden. Dank voor alles wat ik nodig had tijdens dit avontuur. Ik kijk uit naar onze toekomst samen!

Mayke Vereijken

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