

1. Introduction

2021 was the second year of the pandemic, and the majority of our events and meetings were organized online. Our work continued to address the consequences of the pandemic for education with an evaluation of catch-up programmes in primary and secondary education in the Netherlands. The evidence of increasing inequality is growing, enhanced by school closures which have disproportionally affected children from disadvantaged backgrounds.

At the institute we have contributed to various national and international advisory bodies and discussed the ways in which education systems can address these inequalities and "build back better." In the Netherlands, we were part of the outbreak management team in education, which published a number of evidence pieces; for example, on how to address socioemotional well-being of pupils. We also contributed to the Impact-team of the National Council for Primary Education, which provided input to the government's strategy for the national education recovery plan. International outreach included a number of panel contributions, keynotes and round tables (all online) to share best practices for reducing learning loss and increasing the resilience of standardized assessment systems. Our COVID-related work over the past two years has increased our national visibility as a research institute, and we have added "educational inequality" as a more prominent research theme across our five programmes. An important part of this agenda is the start of a new master's degree for primary school teachers (EMPO) and our involvement in the national committee on teacher training, as well as research-practice partnerships to improve reading outcomes in Amsterdam (see section on Learning Sciences).

We are continuing to raise our international profile and our collaborative efforts through Professor van Atteveldt's prominent role as co-chair of the UNESCO MGIEP International Scientific Evidence-based Education (ISEE) Assessment. Furthermore, Anne de Bruijn and Femke van der Wilt both acquired a competitive van der Gaag grant for an extended visit to an international lab, while Anouk Wouters was appointed honorary lecture at University College London. In 2021, a team of colleagues led a European consortium with partners in early childhood education (e.g., Step By Step Foundation and UNICEF in Romania; Trust for Social Achievement in Bulgaria) in working on a Horizon Europe application and sharing expertise. We aimed to share these international experiences in 2021 through a series of conversations to celebrate our international work.

These conversations included brief talks from colleagues about their research in other countries in which they spoke about cultural differences and their insights gained from working abroad. These conversations, however, saw very low partipeant numbers and were discontinued.

As 2021 was the second year of online working, many colleagues felt a general fatigue for online meetings and webinars towards the end of the year, which was evident

We study learning and development and the context in which people learn and develop

Melanie Ehren

4 Annual Report LEARN! 2021





in the declining number of participants at online events. Positive outliers were our annual conference and research seminars; these continued to see good attendance with fruitful discussions. The lack of opportunities for face-toface contact also had a a disproportionate impact on our PhD students, particularly those in their final stages who would normally travel to conferences to present their work and start building their professional networks for future careers after completion. PhD students also felt isolated with limited opportunities for informal contact with supervisors and colleagues. As PhD work tends to be very individual and on single projects, particularly for full time students, they were struggling. We have tried to support them by organizing on-site lunches with limited numbers and day-of testing, and we will continue these lunches now that restrictions have lifted. We have also organized a number of workshops to help them (and others) think about how to extend professional networks online and build the research consortia required for large-scale proposals and grants.

As we move out of the pandemic, we will look for a good mix of on-site and online events; the latter will allow us to continue inviting international colleagues for talks during our research seminars. Given the network-nature of our institute, more face to face meetings to share expertise informally is vital to enhance our interdiscplinairy work. We look forward to organizing these again.

Our COVID website: www.researchinstitutelearn.nl
Our YouTube channel

Our wider work: www.vu.nl/learn

LEARN! is an interdisciplinary research institute on learning in an institutional and societal context.

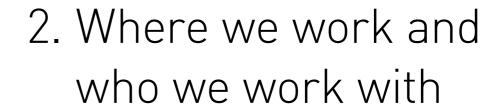
We study learning and development and the context in which people learn and develop.

Professor Dr. Melanie Ehren Director of LEARN!

To contents

Back < > Forward

Annual Report LEARN! 2021 5



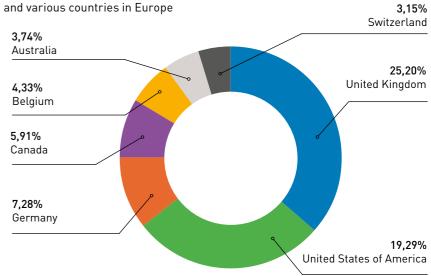


2.1 Where we work

In the Netherlands, we have established a number of partnerships with, for example, the Inspectorate of Education, care centers, and partner universities on projects and publications (see 2.2). These are included our programme descriptions below.

Our international co-authors on publications are mostly from the UK, the United States, Canada, and various countries in Europe

(e.g. Germany, Belgium, Switzerland). We work across a total of 42 countries; the table below includes an overview of co-authors' countries that are represented on more than 3% of our publications. We have included the organizational affiliations of our top two countries, the UK and the USA, later in this section.



To contents

2.2 Who we work with

The below figure provides a breakdown of organisations we co-publish with. The list is longer than the organisations listed here as some organisations are included on only one publication. The figure demonstrates our strong collaboration in publications with the University of Amsterdam, Erasmus University in Rotterdam, University of Utrecht, Tilburg University, and Leiden University.

- UvA
- Leiden University
- Erasmus MC
- Erasmus University Rotterdam
- University of Groningen
- Utrecht University
- Tilburg University
- Radboud University
- Bartiméus
- Eindhoven University of Technology
- Saxion University of Applied Sciences
- Windesheim University of Applied Sciences ■ National Institute for Public Health and the
- Environment ■ University Medical Center Utrecht
- Maastricht University
- Leiden University Medical Center
- Netherlands Institute of Mental Health and Addiction
- iPabo University of Applied Sciences
- University of Twente
- Dutch Inspectorate of Education
- University Medical Center Groningen
- Wageningen University and Research
- Radboud University Medical Center
- Leiden Institute for Brain and Cognition (LIBC)
- TNO
- Verwey-Jonker Instituut
- GGz Breburg
- Amsterdam Public Health research institute
- Netherlands Institute for Neuroscience
- IVO Addiction Research Institute
- Yulius Mental Health Organization
- Zuyd University
- Academic Centre for Epileptology
- Mondriaan Mental Healthcare Group
- University of Applied Sciences Leiden
- Universiteit Voor Humanistiek
- Atlant
- Dutch Institute of Clinical Auditing
- Augeo Foundation
- Brain Center Rudolf Magnus
- Netherlands Organization for Applied Scientific Research
- Cordaan
- Noordhoff Uitgevers
- University of Humanistic Studies

- van de Gezondheidszorg
- Cito

- AMC

- Studio Rogier Arents
- Dutch Knowledge and Innovation Centre Youth and Health (NCJ)
- Tante Louise
- Amsterdam University of Applied Sciences
- Theologische Universiteit Apeldoorn
- NEMO Science Museum



Within the UK we work with 42 different organisations; most are universities, particularly the University of Cambridge, University of Bristol, and King's College London. In the US, we have 59 partners, with Harvard Medical School, Duke University, and the University of Texas as our top three collaborators.

Collboration with UK partners		Collaboration with USA partners	
University of Cambridge	17	Harvard Medical School	8
University of Bristol	15	Duke University	5
King's College London	13	University of Texas at Austin	5
University of Oxford	9	National Institute of Mental Health	4
University of Warwick	7	Stanford University	4
University College London	7	Indiana University	3
Imperial College London	6	University of California	3
University of London	6	Icahn School of Medicine at Mount Sinai	3
University of Manchester	4	Princeton University	3
University of East London	4	Harvard T.H. Chan School of Public Health	2
University of Exeter	3	University of Washington	2
University of Surrey	3	Florida International University	2
The Alan Turing Institute	2	University of Missouri	2
City University of London	2		
University of Southampton	2		
Swansea University Medical	2		



School

Nienke van Atteveldt

3. Our programme of work

3.1 Educational Neuroscience; brain, learning and development

How can developmental and biological perspectives help us understand learning and behavior of children and adolescents in educational contexts? Our research focuses on social-emotional, motivational and metacognitive factors to understand what is needed for children to do well and feel well in school. In addition to child factors, our program generates novel insights into how individual development is influenced by the environment, such as the peer context in the classroom, and geneenvironment interplay. Throughout our work we use and further develop research approaches which are ecologically valid (i.e., situated and implemented in real-life settings, rather than lab environments) to ensure our findings have direct relevance for education.

3.1.1 Staff

Professor dr. Nienke van Atteveldt (programme chair; n.m.van.atteveldt@vu.nl) Professor dr. Lydia Krabbendam

Dr. Mariette Huizinga (associate professor)

Dr. Nikki Lee (assistant professor)

Dr. Mariët van Buuren (assistant professor)

Dr. Barbara Braams (assistant professor)

Dr. Tieme Janssen (assistant professor)

Dr. Jellie Sierksma (assistant professor)

Dr. Elsje van Bergen (assistant professor)
Dr. Jeroen Pronk (assistant professor)

Dr. Tuongvan Vu (research associate)

PhD students:

Sibel Altikulac
Smiddy Nieuwenhuis
Ilona Benneker
Martine Ceton
Christel Klootwijk
Perline Demange
Sofieke Kevenaar
Kevser Ozmen
Hester Sijtsma
Ruebs Walsh
Beiming Yang



Lydia Krabbendam

3.1.2 Research highlights

Project	PI, team and funder	Key questions and findings
Understanding the motivation- performance cycle	Martijn Meeter, Nienke van Atteveldt, Tuongvan Vu and others; funded by Jacobs Foundation	This grant was awarded to a collaborative group of LEARN! researchers and others from the UvA and UC Berkeley (in 2018) and aimed to build a comprehensive model of the dynamic interaction between motivation, effort and performance and this interaction's impact on learning. It also sought to identify opportunities that can be leveraged to optimise learning in the classroom. In 2021, a theoretical paper was published within this project and the two main authors (TuongVan Vu and Martijn Meeter) were interviewed for the BOLD.expert blog.
UNESCO MGIEP International Science and Evidence based Education (ISEE) Assessment	Co-chair: Nienke van Atteveldt. Among the authors: Marieke Buil, Elsje van Bergen.	The ISEEA project started in 2019 and provides the scientific basis for UNESCO's Futures of Education initiative. The preliminary findings and recommendations were presented at UNESCO in Paris, November 2021. The Blue Dot magazine in August 2021 was devoted to the ISEEA project.
Hoe?Zo!Show	Barbara Braams; grant from the Dutch Research Agenda – Science Communication funding scheme	Barbara will use this grant to further develop the Hoe?Zo!-Show: a project to make children enthusiastic about science. The show toured through the Netherlands in 2021. More info: hoezoshow.nl Covered in Trouw, 3 December 2021: "In de 'Hoe?Zo!Show' leggen promovendi wetenschap uit aan kinderen (en als ze falen moeten ze dansen)"
Emerging Field Group on portable brain technologies in educational neuro- science research	Tieme Janssen, Nienke van Atteveldt, EARLI	This project resulted in an opinion paper published in 2021 about the possibilities and limitations of using portable neuroimaging technologies in education research. Tieme Janssen published an Earli Research Story about the project.
Elsje van Bergen selected as "rising star" by the American Association of Psychological Science	Elsje van Bergen, American Association of Psychological Science	"Rising stars" represent the brightest and best in the field of psychology. LEARN! member Elsje van Bergen was selected as being one of them. Elsje van Bergen is an assistant professor at the department of biological psychology at the Vrije Universiteit Amsterdam. She thrives on building interdisciplinary bridges to study individual differences in learning. Her academic journey started in human movement sciences, continued in educational sciences and developmental psychology, and now has led her to behaviour genetics.
Symposium presented during the annual LEARN! Conference, 2021	Jellie Sierksma, Sibel Altikulac, Katinka van der Kooij	The role of mindset and self-esteem in motivation, exploration and helping in the school context.







Elsje van Bergen

Jellie Sierksma

Tieme Janssen

Dissemination and outreach in the area of brain development and learning included, for example:

- Nienke van Atteveldt gave a lecture at the Onderwijsinspectie on May 20, 2021:
 De wisselwerking tussen motivatie, leergedrag en schoolprestaties
- Blogs and interviews on LEARN! website:
 - Interview with Prof. Iroise Dumontheil
 - Christel Klootwijk: Academic motivation during the COVD-19 pandemic
 - Bruno Sauce: Genetic studies can tell us how well education is doing as the "great equalizer"
 - Mariëtte Huizinga: Her research on executive functions and her current projects



14 Annual Report LEARN! 2021

3.2 Educational governance, identity and diversity

The research on "Educational governance, identity and diversity," chaired by Professor dr. Melanie Ehren and Professor Johannes Drerup, spans educational governance of schools and systems in the widest sense, including leadership and management of schools, functioning of school boards and educational networks, their accountability, and how performance, innovation and improvement of schools are coordinated through various types of governance (e.g. market-based, hierarchical steering, network governance). We also study and explore questions about which educational practices best facilitate the development of children into adults who are able to live in and contribute to a society that is culturally and religiously diverse. We combine insights from philosophy of education and public administration to study the functioning of schools and school systems.

3.2.1 Staff

Professor dr. Melanie Ehren

(programme chair; m.c.m.ehren@vu.nl)

Professor dr. Johannes Drerup (part-time)

Dr. Anders Schinkel (associate professor)

Dr. Marjolein Camphuijsen (assistant professor)

Dr. John Exalto (assistant professor)

Dr. Cor van Montfort (senior researcher)

Dr. Willeke Rietdijk (research associate)

The following PhD students were working with us in 2021:

- Thomas Kaye: Assessing the capacity of public education systems in developing countries to successfully absorb adaptive learning focused EdTech initiatives aimed at enhancing student outcomes (ended his PhD without completion in November 2021)
- Olamide David: Exploring autonomous school management within the context of a developing country: the concept, policies and practices of autonomy (part-time, joined in 2019).
- Sarah Seleznyov: Lesson study: an exploration of the successes and challenges of implementation beyond Japan through comparative case studies (part-time, joined in 2019)
- 4. Elsbeth Prins: Financial aspects of network governance in education (part-time, joined in 2021; part of the EISON consortium)

3.2.2 Research highlights

In 2021, the following themes and funded projects were part of our research programme.

Inspection and accountability research

The programme 'Educational governance, identity and diversity' included a number of research projects on inspection and accountability, funded by the Dutch research council (NRO), the UK research council ESRC, and the council for primary and secondary education in the Netherlands.

These projects have the common theme of understanding how various forms of internal and external accountability can lead to improvement of schools and learning of educators. A specific theme within this body of work is the role of evaluation and monitoring in the pandemic and how inspection can, for example, enable the sharing of good practice and system-wide improvement in a time of crisis.

A summary of highlights of our research on inspection and accountability is included in the below table.

Project	PI, team and funder	Key questions and findings
Accountability, capaci- ty and trust to improve learning outcomes in South Africa; a sys- tems approach	Professor Melanie Ehren (PI) Team: Jet Education Services (South Africa; Dr. Andrew Paterson), Open University UK (Dr. Jacqueline Baxter) Funder: ESRC (Economic and Social Science Research Council); DfID (UK Department for International Development)	This study examines how accountability relationships and processes within South Africa's education system enable or inhibit the raising of learning outcomes, create inequalities, and maintain a divided system of poor and privileged school. The team in South Africa collected and analysed survey data in 2021 and finalized the technical report with key insights summarized in two factsheets: the first sheet presented four different metaphors used by school staff to describe their school organisation and internal accountability and trust relations (family, hospital, factory and warzone), while the second one describes school staff members' understanding of professionalism and professional accountability, specific trust orientations and relations that underpin both, and how these vary by school context.
Aruba national audit office	Dr. Cor van Montfort (PI)	This project explores the financial management of a numbe of quasi-non-governmental organisations (Quangos) in Aruba.
Horizontal accountabil- ity for learning (Leren door verantwoording) in Primary and Secondary Education	Dr. Cor van Montfort (PI) Funder: VO-raad (Dutch council for secondary schools)	Both projects in primary and secondary education explore how school boards can use their external accountability for the purpose of becoming a learning organisation. The projecombined a literature review with action research where school boards were supported in using a tool to reflect on their current internal and accountability practices and worked in learning networks towards an improvement-oriented approach.
Horizontal cooper- ation in Vocational Education (Horizontale samenwerking in de MBO-sector)	PI: prof. dr. Renée van Schoonhoven, VU Amsterdam Dr. Cor van Montfort Dr. Willeke Rietdijk Funder: Dutch Research Council (NRO)	This project explores how schools in vocational education work together with public and private partners and how these collaborations contribute to a responsive curriculum and regional innovation. We explored determinants for success and failure for such (public-private) cooperation and develop a design- and evaluation instrument with which institutions can analyze their partnerships. The project started in January 2020 and will end in March 2022.

Inspection and accountability

A new grant of 1.130.795 euro (€390.404 for the VU; PI Professor Kenis, Tilburg University) awarded in 2021 will see a continuation of the work on inspection over the next five years with a large consortium of four inspection agencies in education, healthcare, social housing, and justice, as well as eight networks of public service providers (including schools). The consortium called 'EISON' will develop and test new inspection models of organizational networks where various partners (e.g., schools, municipality, youth services) collaborate to address complex societal problems.

Democratic education

The theory and practice of democratic education and teaching of controversial issues is a second theme in our programme, led by Professor Johannes Drerup. Prof. Drerup published a special issue about Demokratieerziehung und die Herausforderungen der liberalen Demokratie in the journal Zeitschrift für Pädagogik, coedited with Julian Culp, as well as an edited volume (Dürfen Lehrer ihre Meinung sagen?,

BILDUNG UND ERZIEHUNG IM AUSNAHMEZUSTAND
Philosophische Reflexionsangebote zur COVID-19-Pandemie

Kohlhammer), coedited with Douglas Yacek and Miguel Zulaica y Mugica. Other publications included papers and a monograph (Kontroverse Themen im Unterricht, Reclam). The monograph was reprinted as a special edition of the German state centers for political education (Landeszentralen für politische Bildung). Professor Drerup was also appointed co-editor of Zeitschrift für Erziehungswissenschaft (Journal of Educational Research), which is one of the leading educational science journals in German speaking countries.

Human flourishing and wonder-full education

While this project ended formally in October 2020, the string of publications continued in 2021, with philosophical papers (academic and popular) and some important publications in English and Dutch on the empirical research, the Wonderful Education Questionnaire, and the theoretical framework underpinning this. The research project developed valuable insights into the fundamental importance of stimulating wonder in education, for example, to foster or (re)awaken children's interest in the world and to promote an intrinsic motivation to learn and engage emotionally with lesson content. The empirical studies published advance the research regarding wonder in education by identifying eight teaching strategies and three school policy dimensions relevant for teachers and schools to stimulate wonder in children. Some of the philosophical underpinnings of the project were included in a two-day masterclass about the philosophy of education with policymakers in the Dutch Department of Education.

Learning loss, inequality and segregation

A joint programme of work with Martijn Meeter's group in learning sciences continued the second year of the evaluation study of catch-up programmes in the Netherlands. In 2021, the team published a number of factsheets on schools' theories of change underpinning their programme, the outcomes of the quantitative analyses of effects in primary education, and the analysis of socioemotional outcomes of students participating in the programmes. Results are published on the website www.researchinstitutelearn.nl and reported in the 'Learning Sciences' section of this report.

Privatization of education

In 2021, dr. Marjolein Camphuijsen's research focused on exogenous and endogenous forms of privatization in education. She contributed to two special issues focused on understanding the enactment and impact of policies that introduce businesslike principles into public education, to be published in Education Policy Analysis Archives and the Foro de Educación. She also presented her work at the American Educational Research Association Annual Meeting (April 2021) and the International Conference on Public Policy (July 2021). In addition, her research focused on the growing usage of supplementary education (e.g., homework guidance, exam preparation, thesis support) from commercial providers. Together with prof. Melanie Ehren, she published a blog on supplementary education (see: https://vu.nl/en/about-vu/ more-about/blogs-and-publications). She also initiated new research to find out more about the usage of supplementary education in higher education.

16 Annual Report LEARN! 2021 Back < > Forward Annual Report LEARN! 2021 17

3.2.3 Outreach and capacity-building

Dissemination and outreach in the area of inspection and accountability for improvement included a series of talks by Professor Ehren at various EU seminars about the role of inspection agencies in monitoring and sharing good practice of schools' responses to COVID related school closures. Dr van Montfort also spoke at various events and organized masterclasses for the VU Zijlstra institute. Some examples of talks are:

- ICSEI conference (March 2021): School Inspection During and Post the COVID-19 Pandemic: Purposes, Priorities and Practices
- Swedish Inspectorate of Education (March 2021): The role of inspection in repairing learning loss
- PO-raad (council for Primary education (June 2021): Learning from NCO data
- Queen Rania Teacher Academy, Jordan (June 2021): COVID-19 and challenges for educational quality: repairing learning loss and teacher agency
- Pontificia Universidad Católica de Valparaíso Chile (June 2021): Standardized assessments for intelligent accountability
- UKFIET annual conference (September 2021): Researcher's perspective on accountability reforms at the systems level
- Presentation at the LEARN! Conference (January 2021): Enhancing public accountability in primary and secondary education
- Two masterclasses for the VU Zijlstra Institute (Marc Hand, November 2021): Governance and supervision
- Together with Anders Schinkel, a masterclass for the Ministry of Education, Culture and Sciences (June 2021): Between willing, knowing and acting. About the relationship between knowledge and politics
- Workshop at the Zayaz conference, Den Bosch (July 2021): Supervision and networks
- Interview VTW for Aedes-magazine Supervision and local networks ('Toezicht op lokale netwerken in beweging'), 19-10-2021
- Participation in interorganizational visitation of Vrije Scholen (Visitatie Vrije Scholen), Zeist (November 2021)
- Presentation at Inspectorate
 Healthcare and Youth research meeting
 (November 2021): Supervision and

interorganizational networks (Toezicht en organisatienetwerken)

Professor Ehren also worked as an external consultant with the OECD, UNICEF, and UNESCO IIEP in developing inspection systems in education in Morocco, Lao PDR, and Guyana. As a member of the board of VIDE (the Dutch association of regulatory, inspection and evaluation agencies), she organised bimonthly webinars for these professional bodies on emerging research in the field; sessions included presentations and discussions about positive deviance as a strategy to improve public governance, a more integrative approach towards inspection of the social domain, and the use of AI and algoritms in inspection and regulation. Dr van Montfort's membership in the national Education Council (a statutory advisory body to the government) and membership in the Trust board of Bazaltgroep also allow for a continuous engagement with national stakeholders and dissemination of our work.

The work around learning loss and evaluating the catch-up programmes in primary and secondary education has also raised the profile of the institute in research on inequality, with further theoretical contributions on school segregation as an element of high inequality and further funded work in this area by members of the COVID research team. Professor Ehren was invited to speak in the Dutch Parliament about inequality (November 2021) with further interviews for Didaktief (joint interview with the chair of the SER, the national council with a statutory role to advise Dutch Government and Parliament on social and economic policy). Further dissemination of the work included:

- An invited talk at the Education Endowment Foundation (EEF; January 2021)
- Presentation to the Dutch/Flemish NVG0 (January 2021)
- The annual invited keynote for EPI (the UK Education Policy Institute; December 2021)
- Presentation to German IDEA (March 2021)
- A webinar with REOS partners in South Africa (May 2021)

Further outreach activities included blogs on the LEARN! website by Dr. Camphuijsen, various publications and mongraphs by Professor Drerup and Dr. Schinkel, and a two-day course on the philosophy of education by Dr. Schinkel and Dr. van Montfort.



3.3 Learning Sciences

How can learning processes be optimised in various contexts? The research in Learning Sciences is aimed at facilitating educational improvements with scientific insights in collaboration with practice. Gaining insight into the learning processes at an individual and group level makes it possible to better equip the instructor with teaching methods and skills that promote the learning of the individual. The aim is to ensure that learning processes are optimised for each individual according to his or her characteristics, in line with the educational context. As such, we are interested in personalised education.

3.3.1 Staff

Professor dr. Martijn Meeter (programme chair; m.meeter@vu.nl) Professor dr. Maartje Raijmakers (programme chair; m.e.j.raijmakers@vu.nl) Ilja Cornelisz (associate professor)

Chris van Klaveren (associate professor) Menno van der Schoot (associate professor) Anne de Bruijn (assistant professor) Marjolein Dobber (assistant professor) Sui Lin Goei (assistant professor) Anna Kaal (assistant professor) Anne Fleur Kortekaas-Rijlaarsdam (assistant professor) Chiel van der Veen (assistant professor) Bregje de Vries (assistant professor) Hanna Westbroek (assistant professor) Femke van der Wilt (assistant professor) Marije Korevaar (research associate) Lisa van der Sande (research associate) Melvin Vooren (research associate) Tirza Bosma (lecturer) Sebastiaan Donszelmann (lecturer) Adam Handelzalts (lecturer) Kokkie van Oeveren (lecturer) Iris Pauw (lecturer) Jos Beishuizen (visiting fellow) Euwe van den Berg (visiting fellow)

PhD students:

Seven new PhD students

joined the research

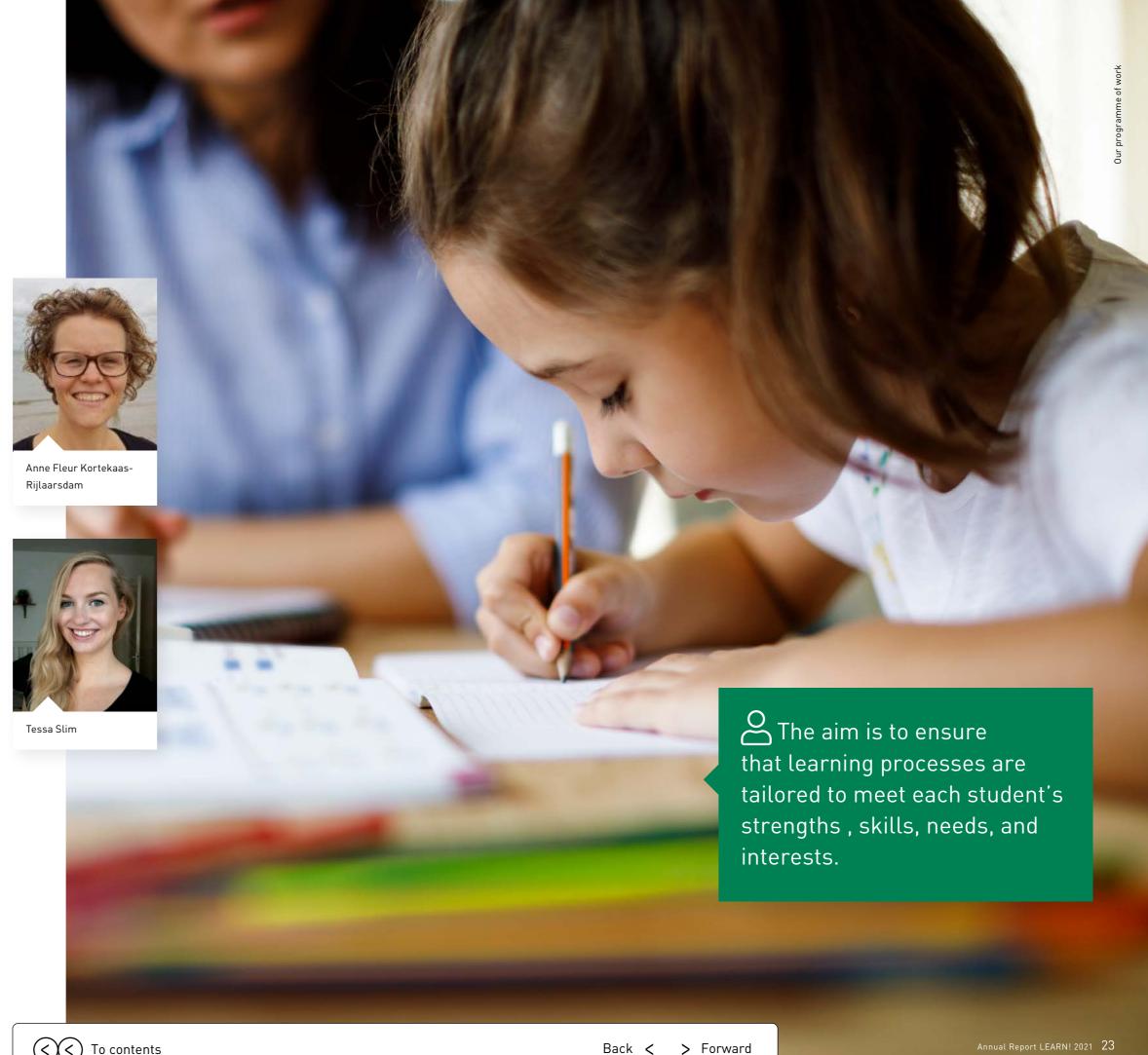
programme in a self-funded capacity, and their projects include various aspects of learning across a wide array of educational contexts. These new PhD students are Li Jiajia, Lex Freund, Peter Langerak, Chantal van Helden, Marja Eding, Janette Prins, and Iris Bogaers. The following PhD students are part of the programme: Iris Bogaers Laurens de Croes Femke Dijkstra Irene Eegdeman Nicolette van Halem Willemieke de Jong Mirella Jongsma Erik Meij Christiane Nieuwmeijer Koen Ottenhof Simone Plak Jannetta Prins Anni Sapountzi Tessa Slim Mireille Smits Lieke van Stekelenburg Li Jiajia Lex Freund Peter Langerak Chantal van Helden Marja Eding



3.3.3 Outreach and capacity-building

Researchers in the learning sciences were involved in various dissemination and impact activities:

- Raijmakers was member of a standing scientific committee advising the Ministry of Education on the new curriculum for primary and secondary education.
- Cornelisz was (with Ehren of Educational Governance) elected to the "Outbreak Management Team - Education," a scientific expert panel advising the ministry of education and other stakeholders on issues of implementation and resource allocation concerning the National Program for Education. This team produced a series of discussions, guidelines for school leaders, and op-eds in national media.
- Meeter assisted the Ministry in framing its agenda for research and innovation.
- Van der Veen was member of the academic council of the Child and Family Blog (childandfamilyblog.com) as well as the science committee of the Association of Educationalists in the Netherlands (NVO).
- During the year, Meeter was interviewed as an expert in the media sixteen times. Three of these were interviews for television news, one was a radio interview, two were radio debates (of which he squarely lost one), one was an interview with an international science blog, and the remaining were in print media. He also published two opinion articles on subjectification as a goal of education and on new forms of accountability for higher education.
- Van der Wilt has continued to be a member of the editorial board of a Dutch professional magazine directed at teachers in primary education, JSW (www.jsw.nl).
- Members of the program gave several talks and workshops for professionals and policy makers, such as van der Veen at UNICEF and Saxion and Meeter at the OPeRA network of schools and higher education institutions in the Netherlands (operaeducatie.nl/).





3.4 Motivation for lifelong learning in the health professions -Developing students for life

How can we motivate students and professionals to become lifelong learners, particularly in healthcare? Our research group aims to understand how we can develop "students for life" who are intrinsically motivated learners and who constantly interact with their environment, integrate learning and practice, and are dedicated to investing in continuing professional development.

24 Annual Report LEARN! 2021

3.4.1 Staff

Dr. Rashmi Kusurkar

(programme chair; r.kusurkar@amsterdamumc.nl) Dr. Anouk Wouters (Assistant Professor) Dr. Anne de la Croix (Assistant Professor)

Neha Basnet (postdoc)

PhD students:

Joyce Kors Malou Stoffels Jettie Vreugdenhil Jan Willem Grijpma Lianne Mulder Lucille Malan - joint PhD student with Sefako Magatho University, South Africa

Rashmi Kusurkar

External PhD students:

Marnix Westein (Utrecht University), Yuanyuan Zhu (University of Maastricht), Adam Gavarkos(IHPME, University of Toronto, Canada), Sven Schaepkens (Erasmus University Medical Centre), Femke Dijkstra (Vrije Universiteit, Amsterdam)

Research assistant: Sunia Somra (until July 2021)

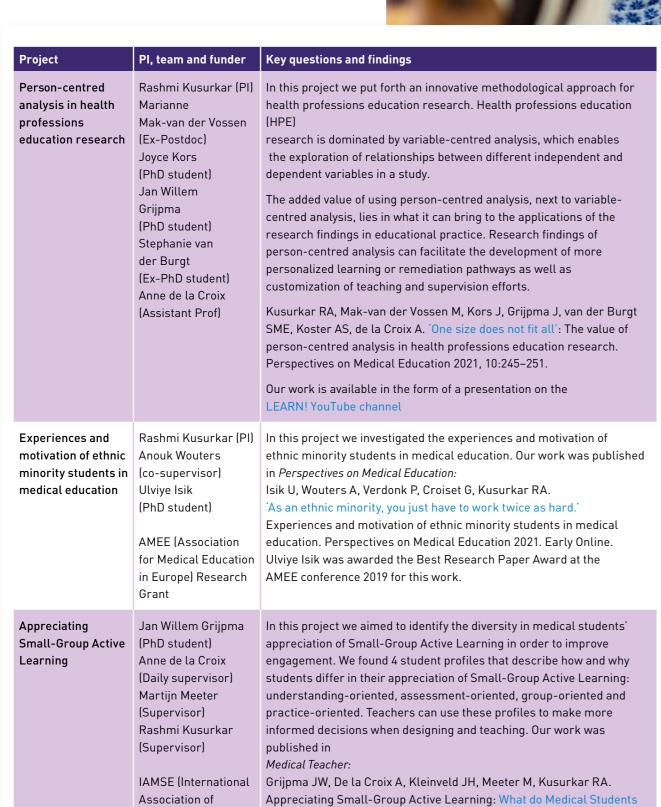
3.4.2 Research highlights PI, team and funder Project Key questions and findings Motivation of (non-) Rashmi In this mixed methods research project, we aim to answer the following traditional students Kusurkar (PI), research questions: **Anouk Wouters** for participating in • To what extent do non-traditional students participate in honours honors program-(Assistant Prof) programmes in university education? Neha Basnet mes and facilita- What type of motivation do non-traditional students have? What type tors and barriers (Postdoc) of motivation do they have in comparison with traditional students? (co-applicant in • Which factors influence the choice of non-traditional students on consortium, fund-Funder: whether or not to participate in honours programme in university ing of €56,650 for NRO Praktijkgerichte education? How? Are these factors different from traditional a postdoc) onderzoek subsidie students' factors? How do these perceptions and experiences influence the professional identity development of these students? • Which people in their social network help with this choice? Predicting who Rashmi Kusurkar (PI) We investigated whether the gradual transition in the admissions enters health **Anouk Wouters** procedure from lottery to selection in the Netherlands influenced the professions educa-(Daily supervisor) representativeness of health professions education (HPE) students tion programmes Lianne Mulder compared to their age cohorts and eligible student pool as well as which (PhD student) variables were predictors of becoming an HPE student. We found that: based on demographics a) Students who are female, have at least one parent in the top-10 per-A national Funder: Ministry of centile income group, and have at least one parent who is a healthcare Education, Culture retrospective professional are overrepresented amongst HPE students; b) During cohort study in and Science the gradual transition from lottery to selection, these variables were times of lottery also the strongest predictors for HPE admission; c) Relative to the age and selection cohort, having a Turkish, Moroccan, Surinamese or Dutch Caribbean (Funding= migration background was a predictor to admission as well as d) Having €4,000) a Western or other non-Western migration background. While our age cohorts are highly diverse, eligible student pools for HPE programmes and admitted HPE students do not reflect this diversity. Therefore, policy interventions and recruitment efforts are needed to ensure equitable admissions and a representative future medical workforce that can serve the needs of a diverse patient population. Our article has been published in Medical Teacher: Mulder L, Wouters A, Twisk J, Koster AS, Akwiwu EU, Ravesloot JH, Croiset G, Kusurkar RA. Selection for health professions education leads to decreased student diversity in The Netherlands, but lottery is no solution: a retrospective multi-cohort study. Medical Teacher 2022. Early Online. Our work has been described in two articles by Science Guide: • 'Kansenongelijkheid toegenomen na invoering selectie;

wat gaan we eraan doen?' - ScienceGuide

meteen divers maken - ScienceGuide

• Terugkeer naar loting gaat geneeskundeopleiding niet

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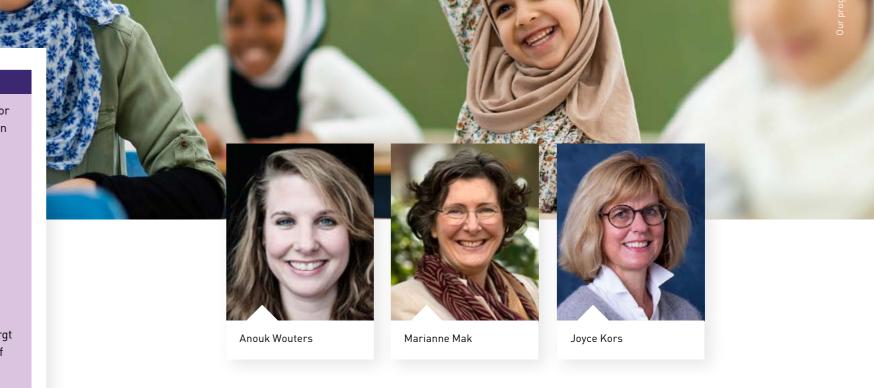


want, and why? A Q-methodology Study. Medical Teacher 2021; 43 (4):

Medical Science

411-420.

Educators)



One of the flagship research projects of the group is the BEeP study. For this project, we collaborated with the PhD Students Board of VUmc (ProVUmc) to investigate burnout and engagement among PhD students registered at our medical center. We collected data from 464 PhD students in medicine on background characteristics, feeling part of a team, conflict between work responsibilities, sleep quality, burnout, engagement, motivation, and satisfaction and frustration of basic psychological needs (of autonomy, competence and relatedness in PhD work). We identified 3 profiles among the PhD students based on the three components of burnout: exhaustion, cynicism, and negative perceived efficacy. Cluster 1 (n=199, 47%) had low scores on burnout but was associated with low engagement scores. Cluster 2 (n=168, 40%) had moderate burnout scores and was associated with even lower engagement scores. Cluster 3 (n=55, 13%), with the highest burnout scores, was associated with the lowest motivation, engagement, need satisfaction, feeling part of a team, quality of sleep, and work-life balance scores. We found that basic psychological needs frustration was associated with burnout. The most important variables

for burnout among PhD students in medicine were lack of

sleep and frustration of all basic psychological needs.

We recommended training for cluster 1 on how to become more engaged in their PhD work. For cluster 2, we recommended that the supervision team engage in discussion with their students about how to maintain autonomy in work, about reducing the conflict in work responsibilities, and perpetuating team spirit in addition to the student getting help with organizing his/her schedule, work-life balance, and sleep. We recommended the research institutes and Human Resources department (at a more systemic/organizational level) to provide training to cluster 3 on structuring their work, personal and leisure activities, and resolution of problems related to poor supervision and basic psychological needs frustration.

Due to the invaluable collaboration with the PhD Student Board, this project led to policy changes at the research institutes of our medical center. We published two articles based on this project:

- Kusurkar RA, van der Burgt S, Isik U, Mak-van der Vossen M, Wouters A, Koster AS. Burnout and engagement among PhD students in medicine: the BEeP study. Perspectives on Medical Education 2021; 10: 110-117.
- Kusurkar RA, Isik U, van der Burgt S, Wouters A, Mak-van der Vossen M. What stressors and energizers do PhD students in medicine identify in their work: A qualitative inquiry. Medical Teacher 2021. Early Online.



3.4.3 Outreach and capacity-building

- Appointment as Honorary Lecturer at University College London, UK - Anouk Wouters
- Appointment as Visiting Professor, University of Indonesia, Master of Medicine programme -Rashmi Kusurkar
- Member of the Executive Committee of the Association of Medical Education in Europe (AMEE) – Rashmi Kusurkar
- Appointment as Faculty Status Only, Institute of Health Policy, Management and Evaluation, University of Toronto, Canada - Rashmi Kusurkar
- Chair of "Fringe" sessions at Association of Medical Education in Europe (AMEE) Conferences – Anne de la Croix

- Associate Editor, Perspectives on Medical Education Rashmi Kusurkar
- Associate Editor, BMC Medical Education Rashmi Kusurkar
- Associate Editor and Section Editor for "A qualitative space," Perspectives on Medical Education – Anne de la Croix
- Associate Editor, BMC Medical Education Anouk Wouters
- Podcast by Rashmi Kusurkar, Fellow of Karolinska Institute for Prize in Research in Medical Education (KIPRIME) – February 2021,
- Podcast by Rashmi Kusurkar on Diversity and Inclusion. Wij samen. "Afl. 4. Pauw in het land van de pinguins." Spotify. December 2021.

The programme Child Rearing focuses on parenting, attachment, and self-determination in family settings. The main question we aim to answer is how parents, teachers, and other formal and informal educators can help children find their place within society and become the persons they want to be. Broadly speaking, parents and educators provide control and protection, guidance of children's learning, entry within peer groups, and a nurturing family and school climate. This program views socialization, character building, and child rearing through the lens of socioemotional development. One line of work under this theme focuses on parenting, attachment, and self-determination in family settings. Another focuses on teacher-child relationships and peer interactions.

3.5.1 Staff

Carlo Schuengel (program chair; (c.schuengel@vu.nl)
Marian Bakermans-Kranenburg (full professor;
m.j.bakemans@vu.nl)

Paula Sterkenburg (professor on special appointment)
Mirjam Oosterman (associate professor)
Agnes Willemen (associate professor)
Sabine Kef (assistant professor)
Marleen de Moor (assistant professor)
Anne Tharner (assistant professor)
Marije Verhagen (assistant professor)
Clasien de Schipper (assistant professor)
Lianne Bakkum (research associate)
Jessica Braakman (research associate)
Linda Douma (research associate)

Carlo Schuengel

Madelon Hendricx-Riem (research associate) Aline Honingh (research associate) Pala Kuld (research associate) Rony Oosterom-Calo (research associate) Nathalie Patty (research associate) Richtje Ras (research associate) Martine Verhees (research associate) Marina Iliás (lecturer) Renata Janssen (lecturer) Saskia van der Wexk (lecturer) Or Dagan (visiting fellow) Eline Heppe (visiting fellow) Simone van der Plas (visiting fellow) Marjoke Rietveld-van Wingerden (visiting fellow) Edith Rot (visiting fellow) Bert Veneberg (visiting fellow)

PhD students:

Suzanne Derks
Tanja Doodeman
Valerie Fictorie
Helen Korving
Lianne van Setten
Jacqueline van Tuyl van Serooskerken
Debora van Elst

28 Annual Report LEARN! 2021 Back < > Forward Annual Report LEARN! 2021 29

3.5.2 Research highlights

Studies and projects within the programme are often part of established research-practice partnerships that have existed for a number of years, including Bartiméus-VU; Viveon; Child Abuse; the Generations²⁻ cohort study; and the Consortium for Attachment Research Synthesis (CARS)

Parenting, attachment, and selfdetermination in family settings

Highlights for 2021 within this research line center on scientific achievements and insights obtained across different projects. These achievements included the successfully-defended dissertations in 2021 by nowdr Kim Alyousefi-Van Dijk on the neurobiology of the transition into fatherhood and by dr Anna Lotz on the neural and hormonal aspects of early fatherhood. Both dissertations are part of the project "Father Trials: Hormonal and Behavioral Experiments on Prenatal and Postnatal Parenting," led by prof Marian Bakermans-Kranenburg on the basis of her ERC Advanced grant. Another highlight was the successful defense at the University of Cambridge by now-dr Lianne Bakkum of her dissertation on attachment and trauma, on the basis of a grant that she acquired from the Wellcome Trust, which drew on the research infrastructure of the Child Rearing program (i.e., Generations² and CARS). Dr Bakkum has continued her affiliation with the program as postdoc within Viveon, the Academic Collaborative Center of 's Heeren Loo and VU.

Contributing to this line of research, full funding was acquired from the 2nd and 3rd money stream sources for the Parents in Balance project on burnout and resilience among parents of children with long-term care needs. This means that Nathalie Patty will continue her affiliation with the program as PhD candidate working within Viveon.

Project	PI, project years and funder	Key questions and findings (PhDs)
Network for self- determination of people with disabilities and intensive care needs (Netwerk Samen Kunnen Kiezen)	Carlo Schuengel & Petri Embregts, 2016-2022, ZonMw NPG	 To investigate experiences around using care data for research Longitudinal impact of basic psychological needs among people with mild intellectual disability Meaning of basic psychological needs and self-determination for people with profound and multiple intellectual disability (Van Tuyll van Serooskerken)
Consortium for Attachment Transmission Synthesis	Marije Verhage, 2018-2022, NWO VENI	Better understand the phenomenon of intergenerational linkages in attachment through individual participant data meta-analysis.
Consortium Individual Development work package 2: Effects of interventions	Marian Bakermans, 2018-2023, NWO Gravitation	Which children are most susceptible to environmental influences, and what are the neurobiological mechanisms by which the environment influences children's social competence and behavioural control? These questions are addressed experimentally in longitudinal randomized controlled trials (Annemieke Witte; Jana Runze).
Father Trials: Hormonal and behavioral experiments on prenatal and postnatal parenting	Marian Bakermans- Kranenburg, 2016-2021, ERC Advanced	To test the hypothesis that fathers' parenting is under hormonal control and can be changed by behavioral and hormonal interventions (Kim Alyousefi; Anna Lotz).
The autonomy of adolescents with a visual impairment and autonomy supporting practices of parents and professionals	Sabina Kef, 2019-2022, ZonMw Inzicht	Gaining insight into satisfaction of the need for autonomy among young people with visual impairment as well as insight into autonomy support by parents and care staff.
Secure base script knowledge: Antecedents and sequelae	Marije Verhage & Carlo Schuengel (co-PIs), 2021-2025, NIH R01 Roisman	Testing the incremental and concurrent validity of the secure base script knowledge coding system on two large corpora of Adult Attachment Interviews, the SECCYD and CATS.
Assessing parental sensitivity in child welfare practice	Mirjam Oosterman & Carlo Schuengel, 2018-2022, Municipality Amsterdam/ Pro Juventute foundation Amsterdam	Developing and testing the OKI app and e-learning suite for assessing parental sensitivity in daily child welfare practice; studying its implementation (Mirte Forrer).
Fast forward and Rewind	Caroline Jonkman & Carlo Schuengel, 2019- 2024, ZonMw Geweld Hoort Nergens Thuis	Testing family-based intensive trauma therapy for adolescents with complex psychological trauma (Valerie Fictorie).
What do we tell the parents: Impact of sexual abuse on parents and families	Caroline Jonkman, 2021-2023, SASS	How can professionals strike a proper balance in sharing or withholding from parents concrete details of sexual abuse committed against their children?

* F2 BO F3 BBB F4



Nurturing social relationships in formal educational and care settings

The year 2021 saw publication of evidence regarding IT-based tools that may be used to foster social and emotional functioning of children with intellectual disability, developed and studied within the Academic Collaborative Center of Bartiméus and VU. A study by Van Wingerden et al. (2021) did not find replicable effects of robot-mediated therapy to reduce worrying. Lievense et al. (2021) reported results from a randomized clinical trial indicating the serious game they developed helped children with visual impairments increase their selfconcept and social inclusion. This group of researchers remained successful in acquiring additional grants. In 2021, for example, ZonMw awarded a PhD-project on ageing of adults with a visual impairment and a mild-tomoderate intellectual disability. In addition, insights were obtained and disseminated on the impact of the COVID-19 pandemic on the social relationships and functioning of people in long-term care (e.g., Honingh et al., 2021).

At the intersection of child rearing and education, two new PhD projects were granted funding from 2nd and 3rd money streams within Viveon. Hinke Drijver started in 2021 with her project validating a new instrument for assessing adaptive functioning of people with moderate to severe intellectual disability, the DIAG. This project takes places in collaboration between the Child Rearing program (prof Schuengel) and Radboud University (prof Didden). Awarded in 2021 but starting in 2022, Marja Eding will develop and test a novel dynamic assessment paradigm for learning potential among children with moderate to severe intellectual disability. She is advised by prof Schuengel (Child Rearing program) and prof Meeter (Educational Sciences program), realizing part of the potential for synergy between the programmes of LEARN!.

Project	PI, project years and funder	Key questions and findings (PhDs)
Social relationships and ICT: Fostering coping, autonomy, and wellbeing (Sociale relaties en ICT: bevorderen van coping, autonomie en welzijn)	Paula Sterkenburg, 2016-2022, ZonMw NPG	 To develop a serious game (You & I) to promote mentalization among people with mild intellectual disability (Suzanne Derks). To develop and test the instrument "Connect & Stimulate" for parents and care staff of people with profound and multiple intellectual disability (Tanja Doodeman). Develop and test the HiSense app for parents and care staff of people with mild-to-moderate intellectual disability.
Development of a Mentalization Based Treatment protocol for adults with psychological/psychiatric problems and a Visual Impairment (MBT-VI) and Mentalization Based Support for their relatives and caregivers (MBS-VI)	Paula Sterkenburg, 2017-2021, ZonMw Longterm care and support	Develop a protocol for mentalization-based treatment for people with visual impairments and mental health problems.
Freedom & security; Scaling up and scaling out of methods for reducing restraints in the care for people with intellectual disability and challenging behavior (Vrijheid en veiligheid: Uit- en opschalen van methodieken gericht op afbouw van vrijheidsbeperking van mensen met moeilijk verstaanbaar gedrag en matige of ernstige verstandelijke beperkingen)	Carlo Schuengel & Petri Embregts, 2018-2023, ZonMw NPG	 Investigate the effectiveness of (1) multidisciplinairy expertise team; (2) through other eyes; (3) deliberative framework for involuntary care. Understand implementation mechanisms through the lens of Normalization Process Theory (Esther Bisschops).
HiSense for taxi drivers of people with disabilities	Paula Sterkenburg, 2019-2022, municipality Haarlemmermeer	To adapt and test an app to support understanding and sensitivity of special transportation taxi drivers.
VIPP-School	Mathilde Overbeek, Marian Bakermans-Kranenburg, & Agnes Willemen, 2020-2024, NRO	Developing and testing the effectiveness of an adapted version of a video feedback intervention for positive parenting to be used to support teacher relationships with kindergarten children with disruptive behavior (Kim Starreveld).
Virtual social contact for people with disabilities (Digitaal op Bezoek)	Anne Tharner & Carlo Schuengel, 2020-2022, ZonMw COVID-19	Decribing the experiences and needs during pandemic lockdowns in residential care for people with disabilities around virtual forms of social contact; translation into guidance for increasing the opportunities for virtual contact.
Decline in functioning, now what? Ageing of adults with a visual impairment and a mild to moderate intellectual disability	Paula Sterkenburg & Erik Olsman, 2022-2026, ZonMw InZicht	Understanding the impact of aging and dementia of people with visual impairment and ID from a social relationships perspective.

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4. Our collaboration with LEARN! Academy

LEARN! Academy is the centre for professional development of teachers in higher education (and particularly VU teachers) at the VU. The centre is, despite having a similar name as our research institute, a separate organizational entity within the VU. As we have a shared interest and disciplinairy focus on learning and development, we have started to explore further collaboration in the past year. Examples are incorporating research outcomes in teacher professional development programmes or involving teachers in research activities.

In 2021 we started our collaboration with a series of journal clubs where colleagues from LEARN! academy (Janneke Waelen) and LEARN! research institute (Jan Willem Grijpma; Rashmi Kusurkar from the 'motivation for lifelearning' programme) discuss research papers. The first meeting took place on February 8th with montly sessions for the remainder of the year. 25 colleagues are invited for each session with attendance varying from 8 to 20 members.

The journal clubs are led by members on a rotating basis where one colleague chooses an article for discussion and leads the meeings. Before each meeting, the article is shared via mail and is uploaded in Perusall. Team members are encouraged to read and comment on the article in Perusall, so that a conversation can already take place before the meeting. During the meeting, participants discuss and reflect on the paper, discuss the topics of interest, methodologies used and how this is relevant to their work. The sessions start with a 15 minutes' introduction, 30 minutes of an (active learning) activity, and 15 minute of conclusions. Topics that have been discussed range from articles on Active Learning, Assessment, Intersectionality, Sustainability, Relatedness, Diversity & Inclusion, Teaching in Corona times, and Teacher Education.

The journal clubs are organized in hybrid mode (with options for in person and online attendance) to allow colleagues working in different physical locations to attend. The next step is to also co-write papers and discuss these during the journal clubs.

LEARN! Academy is the centre for professional development of teachers in higher education (and particularly VU teachers) at the VU.

5. Event and seminars in 2021

In 2021, most of our events were online and included a range of research seminars from across all of our programmes. We organized a range of more informal talks about working internationally, but these sessions had few attendees and were discontinued. Other events included professional development workshops about how to build your network online and how to bring together a consortium to apply for large research grants.

Further activities included an introductory meeting for new members of the institute and a Christmas lunch (on-site) at the end of the year. The table below includes our agenda for 2021; we started recording the number of attendees from November onward with a brief evaluation of each event to better understand which sessions were most relevant to our members and to gather suggestions on how to best cater for our members' needs.



2021	Date	Event
January	19	LEARN! seminar with Marjolein Camphuijsen: From trust in the profession to trust in results: Examining Norwegian school principals' responses to performance-based accountability demands
	20	Annual conference
February	2	LEARN! seminar with Silke Vanparys - Interactive book reading after kindergarten? Of course!
March	3	LEARN! seminar with Rashmi Kusurkar: One size does not fit all': The value of person-centered analysis in health professions education research
	25	LEARN! conversation with Rashmi Kusurkar: Conducting international research in the Netherlands while having an international background: A different profile.
April	12	LEARN! seminar with AnneTharner: How homeschooling is given shape when schools close: A resilience framework perspective.
	15	LEARN! conversation with Nicolette van Halem: What's it like to study school climate in California
	20	LEARN! seminar with Friederike Ertmer: Caring together, learning together: Co-creating sustainable educational participation of families with children with complex care needs
May	11	LEARN! seminar with Jan Willem Grijpma: Engaged or disengaged? Using Video-Stimulated Recall to gain insight into medical student behaviour during small-group learning activities
	20	LEARN! conversation with Anni Sapountzi: What it's like coming from Greece and studying Learning Analytics in the Netherlands
June	1	LEARN! seminar Anne de Bruijn: Learning by moving: effects of physical activity on children's academic achievement and brain functioning
	7	LEARN! professional development workshop: Building your (online) network: Why and how
	24	LEARN! conversation with Sarah Seleznyov: What's it like to study Lesson Study in Japan
September	28	LEARN! workshop with Cor van Montfort: How to build a successful research consortium
October	5	LEARN! Diversity Day with Lianne Mulder, Ulviye Isik and Jamiu Busari: Diversity in health education and care
November	17	LEARN! seminar with Aki Murata: Preparing Future Teachers with Lesson Study: Opportunities to Shape New Education
December	7	LEARN! seminar with Monique Volman: Addressing inequality in education – insights from the Educational Research Lab Amsterdam
	13	Christmas Lunch

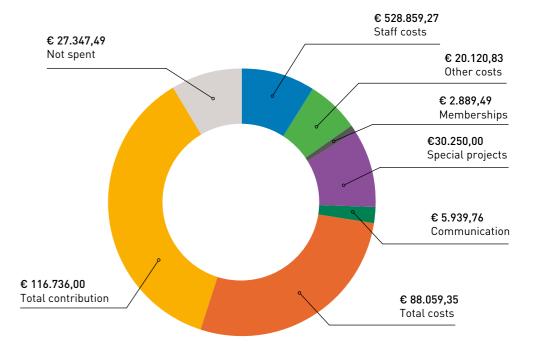
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6. Facts and figures

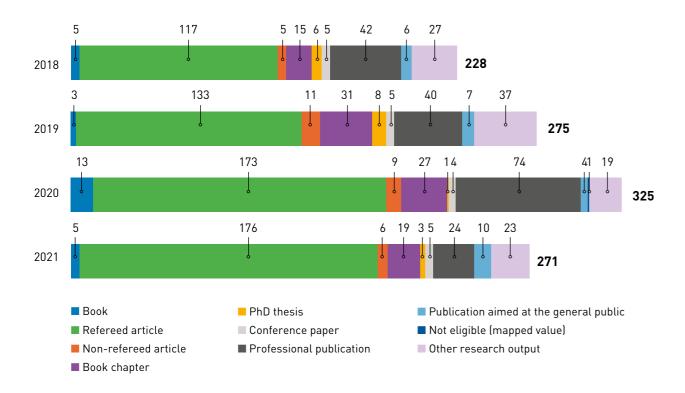
6.1 Funding

As in previous years, we received a contribution from the faculty of € 115.406,84. The contribution was spent on staff costs, memberships of research schools, costs for communication (newsletter, website) as well as funding for NEHEM to support in the wri.



6.2 Research output

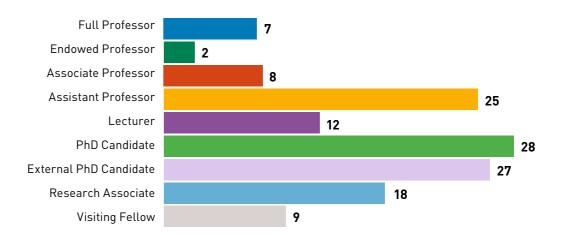
The table below provides an overview of our research output from the past couple years; the increase of books and papers in 2020 can be explained by the group in Child Rearing joining the institute.



6.3 Research staff

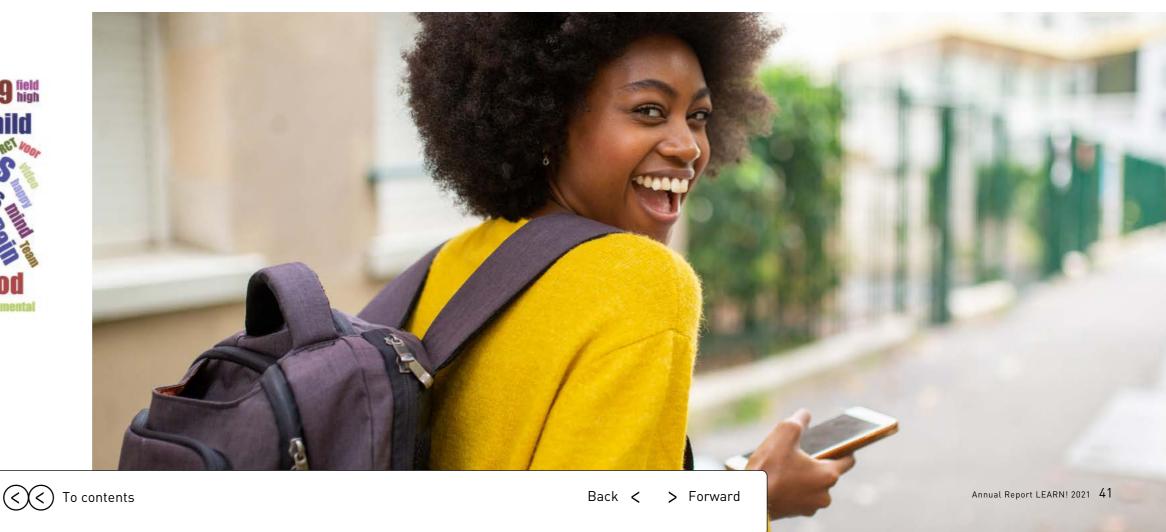
The staff we have in our institute are presented below according to academic role in each of the programmes. The institute has a total of 127 staff with 7 full professors, 9 visiting fellows and diversity in staff in terms of seniority of roles. The largest programmes of work are in Child Rearing and Learning Sciences.

LEARN!

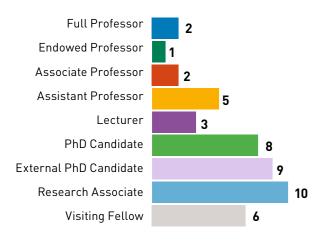




A word cloud from the titles of all our publications shows that "children," "learning," "attachment," and "education" are at the heart of our research. COVID-19 continued to be an important topic in our research output last year, with a number of publications centered on our evaluation of catch-up programmes in the Netherlands.



LEARN! - Child rearing



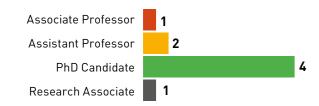
LEARN! - Educational governance, identity and diversity



LEARN! - Educational Neuroscience, LEARN! - Learning Sciences learning and development



LEARN! - Motivation for a lifelong learning



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