Preface

This self-evaluation is prepared in the context of a midterm evaluation of the ICLON research program and covers the period 2015-2017. The institute’s research program is situated in the domain of Teaching and Teacher Learning within the broader field of educational research. This self-evaluation report follows the format of the Standard Evaluation Protocol 2015-2021 for research assessment in the Netherlands. We would like to thank the members of the ICLON Scientific Committee and all other researchers of ICLON for their valuable input.

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Table of Contents

Chapter 1. Research quality, relevance to society and viability ......................................................... 4
1.1 Introduction .................................................................................................................. 4
1.2 Organization, composition and financing .............................................................................. 4
1.3 Developments and trends ................................................................................................. 6
1.4 Strategy .................................................................................................................................. 7
1.5 Research quality ................................................................................................................ 9
1.6 Relevance to society ......................................................................................................... 11
1.7 Viability ............................................................................................................................ 13

Chapter 2. PhD program and diversity .............................................................................................. 15

Chapter 3. Research integrity ......................................................................................................... 17

List of appendices .......................................................................................................................... 20
Chapter 1. Research quality, relevance to society and viability

1.1 Introduction

ICLON Leiden University Graduate School of Teaching is the interfaculty center of Leiden University for teacher education and teacher professional development in secondary and higher education. ICLON contains two departments, linked to these areas of secondary and higher education. The department of secondary education has its core tasks in teacher education for a great number of school subjects and continuous professional development for teachers in secondary education. The department of higher education has its core tasks in professional development of teachers in higher education and the initiation and facilitation of educational networks with a special focus on the network within Leiden University.

The research at ICLON is organized within one research program. The overarching aim of this research program is building a knowledge base for teaching repertoire development and use. The research program aims to both contribute to the development of theory as well as the improvement of practice with a primary focus on the teacher’s role as the crucial factor for the quality of education.

In the present midterm report, we will review the research program as effectuated in the period 2015-2017 according the Standard Evaluation Protocol 2015-2021.

1.2 Organization, composition and financing

Organization

ICLON consists of two departments: secondary education and higher education. ICLON is directed by the ICLON board (Bestuur). This board consists of the deans of three faculties of Leiden University (Science, Humanities and Social and Behavioral Sciences). The board mandates the director of ICLON, assisted by a management team, to direct ICLON in all its affairs regarding education, research and consultancy, including financial aspects and human resources.

The head of the research program is the program director. The program director is responsible for the thematic leadership, output and managerial decisions of the ICLON research program. In effect, the research program is directed by a scientific committee, chaired by the program director and supported by a secretary. This scientific committee consists of all academic staff members.

To stimulate the quality of programmatic, personal and financial aspects of the research program, the following activities are organized:

- Scientific committee meetings. In their monthly meetings, research policy (local and national), funding applications, facilities, support, conferences, courses, project ideas and possibilities for (inter)national collaboration are discussed in addition to the research processes of the program.
- Meetings of the Research Ethics Committee, established in 2014 (see section 9 on Research integrity).
Research group meetings. In monthly group meetings, project plans, project results and research methods are discussed in an open atmosphere.

PhD student informal lunch meetings. In irregular, informal lunch meetings PhD-students discuss their instruments, draft articles, and other issues of their research project.

Performance interviews. In the individual annual performance interview, all aspects of performance, professional development, conference participation and work conditions are discussed between the program director and research staff.

Website. The research secretary manages the research part of the ICLON website (http://www.iclon.leidenuniv.nl/onderzoek/). It contains information about the research themes, the researchers, the projects and the publications.

ICLON Blog. All ICLON researchers are encouraged to contribute to the blog site (http://researchblog.iclon.nl/), which includes blogs covering themes of the research program and more informal blogs about identity forming of PhDs.

Composition

The ICLON research personnel consists of academic staff, postdocs and PhD-students. The academic staff have direct research funding appointments of 0.4 FTE and are also employed in activities within the departments of secondary and/or higher education. All scientific staff members should be qualified for the national research school ICO, which requires six articles published in international journals indexed in ISI/Thomson Reuters within a period of five years. Also, they are required to supervise PhD-students and/or postdocs. At 31 December 2017 the academic staff consists of 3 full professors, 2 associate professors and 6 assistant professors. Besides academic staff, ICLON employs 45 PhDs and 9 postdocs. Appendix 3 shows trends in composition of the research personnel.

Finance

ICLON has its own financial budget which is presented in Appendix 5. Funding increased substantially from 2015 to 2017. Funding is divided into four categories: Direct funding, Research grants, Contract research and Other. Direct funding applies to budget from the Leiden University allocation model. This model allocates budget for research depending on the number of student credit points, certificates in the teacher education program and completed dissertations. From the table in Appendix 5, we see an increase in direct funding (6.49 in 2015 to 8.46 in 2017). Research grants refer to grants that are obtained in the national scientific competition (NWO and Royal Academy). During the evaluation period there was a substantial increase of research grant funding (from 0.27 in 2015 to 4.11 in 2017). Contract research refers to other indirect funding such as the DUDOC-program, projects financed by the Ministry of Education, national network organizations such as Kennisnet and VO-raad. Individual grants for PhD-students such as a NUFFIC scholarship NWO scholarship. Funding based on contract research increased substantially as well. Other funding refers to funding from the Leiden University Board and Centre for Education and Learning. This funding is labeled “other funding” as it is not part of the regular allocation model of funding research and education (see direct funding above). Other funding slightly decreased during the evaluation period.

In addition to the personnel costs mentioned above, other costs concern:

- audio-visual equipment (e.g. to record interviews and lessons);
- costs related to data collection (e.g. distribution of questionnaires, transcribing interviews);
• costs to reward participants in research (mostly teachers);
• costs related to courses and professional development. In particular, ICLON pays a fixed amount of money to ICO to cover expenses of ICO courses and summer schools;
• costs related to purchase of literature, journals;
• costs related to writing English papers (correction of manuscripts by native speakers);
• costs related to participating in (national and international) conferences;
• costs related to work place facilities (e.g. computers, desks).

In general, ICLON’s policy is aimed at providing researchers with optimal facilities to do their research. Researchers are stimulated to participate in conferences, courses and expert meetings. In addition, activities such as transcribing interviews or entering questionnaire data in databases are supported. For these activities, student-assistants are often hired to save time of research staff.

1.3 Developments and trends

This section outlines trends and developments within the broader research domain, which serves as context for the research program strategy in section 1.4.

Theoretical developments

The ICLON research program is situated within the broader research domain of teaching and teacher learning. Developments in this domain have always reflected major transitions in theoretical perspectives on cognition and learning in general. Four major theoretical perspectives can be distinguished: behavioral, cognitive, situated and ecological perspective. These four theoretical perspectives within the domain teaching and teacher learning offer complementary perspectives necessary to both understand and improve learning of teachers and students.

The eldest and still very influential behavioural tradition focuses on isolated behaviours. Desired learning outcomes for teacher learning and student learning are formulated in isolated skills and a learning sequence is developed in which each skill is practiced with direct feedback, moving from simple to increasingly complex skills. The cognitive revolution resulted in a new focus on cognitive processes and cognitions of students and teachers. In order to bring about change it is suggested that a learning trajectory should start with and build on the students’ and teachers’ knowledge and belief systems through discussion, experiences and reflection. At the moment, the situated perspective is a dominant perspective in which student and teacher learning is seen as linked to the learner identity and always situated in practices in which multiple participants interact. The focus in this perspective lies on learning to participate in these practices while support is gradually decreased. In more recent years an ecological perspective on teaching and teacher learning has emerged. Proponents of the ecological perspective acknowledge the deeply situated nature of student and teacher learning but emphasize the (perceived) goal relevant constraints and opportunities of the work domain in which multiple practices take place.
Contextual developments

In recent years, there have been a number of developments in educational research in the Netherlands that are relevant for the ICLON research program. First, there has been an increase in attention for the practical relevance of educational research. To a certain extent, this originated from the report published by a committee focusing on the future of educational research (Commissie Nationaal Plan Toekomst Onderwijswetenschappen) which led to the foundation of the Netherlands Initiative for Education Research (NRO) in which practice based research is one on the main focus points. Second, teachers are seen more and more as a crucial factor for the quality of education. This led to continuation and, sometimes, broadening of the practice-based opportunities for teachers to do their PhDs in generic and domain-specific topics. These teacher-researcher PhD projects have a focus on practice and theory development, which nicely suits the nature of the ICLON research program.

In the area of educational research in higher education, there have also been important developments relevant for ICLON research. Firstly, it is noteworthy that a national, long-term research plan was introduced for which the first calls for proposals have been opened in 2018. Secondly, there has been increased attention for performing educational research within the setting of Leiden University. This resulted in the appointment of a third full professor at ICLON who was charged specifically with educational research in higher education. Thirdly, ICLON is also intensively involved in the Centre for Education and Learning (CEL), which is a partnership of Leiden University, Delft University of Technology and Erasmus University of Rotterdam to bring together initiatives on innovations, teacher professional development and research in (mainly online) higher education. Finally, ICLON is also partner in a joint research program within the LERU network, a league of 23 leading European Universities in the area of educational research in higher education.

1.4 Strategy

We will briefly describe the important developments of the ICLON research program with respect to: overarching aim; scope; theoretical perspectives; generic and subject specific aspects of teaching; and the double focus on developing theory and practice. In this we focus on developments following the last external assessment (period 2009-2014) of the ICLON research program by an international committee. This committee evaluated the program as very good (score 2) on all quality criteria (research quality; relevance to society and viability).

Overarching aim

Although the ultimate goal of education is student learning, the ICLON research program focuses on teachers as crucial agents in the educational process. After an early emphasis on mapping teacher knowledge, teacher learning became an equal part of the program. In this way outcomes of research on teacher knowledge could be better valorized in ideas about teacher learning. Moreover an extension with teacher learning relates better to the main task of the two departments of ICLON to support teacher learning in secondary and higher education. Because both teaching and teacher learning should be linked to student learning we increasingly study this link as well in our projects.

While in individual projects often one particular approach to teaching is studied there are multiple ways to high-quality teaching. This raises the question ‘How can teachers expand their teaching
repertoire to allow them to teach in multiple productive ways?’ A wide-ranging teaching repertoire, so called adaptive teaching expertise, enables teachers to respond flexibly to their own ideals, to students’ varying learning needs, and to changing teaching contexts, approaches and content. Furthermore, teachers who are able to continuously expand their teaching repertoire are more likely to experience teaching as a challenging and fulfilling activity. Therefore the overarching aim of the ICLON research program is to contribute to the knowledge base about teaching repertoire and it’s development. Some research projects in the program focus explicitly on developing one particular high quality teaching approach and/or how teachers can be supported to expand their repertoire with this particular approach. Other projects focus on understanding and supporting repertoire development and use with respect to multiple teaching approaches.

Scope

The scope of the program has gradually broadened both with respect to target domains and educational purposes. Initially the research focused primarily on secondary education and teacher education, but has been broadened to include other programs in higher education as well. Currently, the ICLON research program contains a number of research projects in higher education and we like to further strengthen this strand of research. As an interfaculty center for education of Leiden University one of the responsibilities of ICLON is to generate knowledge about effective teaching and teacher learning in higher education.

Most teaching approaches are designed for particular purposes. Three broad classes of educational purposes can be distinguished: qualification, socialization and personal development. Qualification has to do with ways in which education qualifies learners for doing things by equipping them with knowledge and skills. Socialization refers to how, by education, learners become (critical) participants of social, cultural and political practices and traditions. Finally, personal development refers to the impact education can have on how a learner develops as person (personal development). Initially, most ICLON research projects focused on the qualification purpose of education. Gradually the number of projects focusing on socialization and personal development has increased. Because of the multidimensionality of educational purpose, teaching repertoire development should be related to all three types of educational purposes.

Theoretical perspectives

In the early phases of the ICLON program the focus was primarily oriented towards a cognitive perspective. Gradually, the situated perspective received more and more attention and, in more recent years, the ecological perspective has also gained visibility in the research program. We do not view these perspectives as competing but instead as complementary lenses to better understand and support teaching and teacher learning. Every perspective illuminates certain aspects of the complex teaching practice and neglects others. In order to overcome the inherent incomplete nature of every theoretical perspective on teaching and teacher learning we choose to approach teaching issues from multiple theoretical perspectives (multiperspectival approach).

Generic and domain-specific aspects of teaching and learning to teach

Guidelines for teaching can be obtained from a generic or a domain-specific stance. Educational research often tends to focus on the application of generic principles of teaching and learning for a particular subject. In this case subject matter is not problematized, but treated as something given. Such a generic approach is very valuable but needs to be complemented with a domain-specific
approach. In this approach examinations of what counts as thinking in a particular domain is becomes the starting point for developing teaching approaches. Each disciplinary or interdisciplinary domain has its own distinctive way of asking questions and developing and validating answers. Articulating domain-specific ways of thinking is important for two interrelated reasons. First, domain-specific ways of thinking are in fact domain-specific ways of active and inquiry-based learning of new knowledge and skills. Second, domain specific ways of thinking act as advance organizers and epitomes that provide coherence and meaning to knowledge and skills. From the beginning both strands, a generic and domain-specific have been represented in the ICLON research program. Although the focus in the domain-specific strand has shifted from how to teach particular topics to how to teach domain-specific ways of thinking.

**Double focus on developing theory and practice**

The ICLON research program aims at both theory development and improving practice. The strategies for realizing this double aim has been expanded. Initially the focus was on articulating and mapping teacher practical knowledge as a valuable contribution for the knowledge base for teaching. Gradually multiple (partially overlapping) strategies were added: research projects are conducted in the context of authentic educational settings; research questions are often derived from and discussed with teachers who operate in the specific setting; sometimes teachers are also involved in discussing and implementing research designs. In addition many PhD research projects are conducted by teachers or teacher educators. More recently a new strategy has been added, so-called bridging research. This type of research is informed by an ecological perspective. It takes an effective innovative teaching approach as a starting point and both regular and innovative practices are represented in comparable building blocks. Cost-effective procedures (heuristics) and trajectories are developed to support teachers in bridging the gap between their regular teaching and innovative teaching practice by stepwise recombination and adaption of existing building blocks.

The aforementioned strategies are used to frame individual projects to develop theory and practice simultaneously. In order to show coherence and knowledge sharing across individual projects, we organize projects according to teaching-learning principles, and related practical tools. Teaching-learning principles are seen as the fundamental building blocks with which multiple educational approaches can be realized. Take for instance the whole-task-first principle which states that learning is promoted when learners acquire knowledge and skills in the context of realistic complex tasks. This teaching and learning principle is an important building block in multiple teaching approaches, such as inquiry learning or cognitive apprenticeship. Moreover it supports both student and teacher learning. In Appendix 8 we present an overview of projects of our research program based on the research profile sketched above.

**1.5 Research quality**

We consider the following indicators important for research quality.

- Publications in ISI journals and chapters in refereed books
- Acquisition of new research projects
- Success rates of PhD-students

We will discuss these indicators and how they refer to ICLON research quality in more detail in what follows.
Publications

The ICLON research personnel consists of academic staff, postdocs and PhD-students. Research personnel in general is well capable to publish their research in ISI journals (see Appendix 10). Among these are also some more programmatic articles that present more conceptual innovations for the domain of teaching and teacher learning. An important objective for the near future is to enhance the share of programmatic articles of the academic staff. Many staff members supervise PhDs and postdocs successfully towards publishing but give less attention to publish programmatic articles in high impact journals.

Acquisition of new research projects

ICLON staff succeeded to acquire practice-based research projects in both the generic and the domain-specific strand (see Appendix 5 and section on funding). In most cases, ICLON collaborates with secondary schools, faculties of Leiden University and with other universities and universities for applied sciences. ICLON is known to be a valuable partner in such partnerships for research purposes in secondary and higher education. Some of these partnerships have a structural character in the sense that collaboration is sustained over multiple consecutive research projects. Our capacity for the acquisition of European research funding and funding for fundamental research, however, could be strengthened. We have already begun working towards this by developing conceptual innovations, developing a distinguished profile and building structural alliances with national and international partners in which ICLON is able to bring complementary expertise that comes from having a strong focus on the teacher in educational settings.

Success rates of PhD-students

In Appendix 6 we present an overview of the success rates of PhD-students. In general, these success rates are good. However, we should distinguish between full-time and part-time dual PhD-students. Dual PhD-students sometimes find it more difficult to finish their project within the time allotted because they have less time available to complete their project, often have no background in educational research and combine two jobs. We intend to design and implement a pre-PhD trajectory for (prospective) dual PhDs. Once finished, most of the ICLON PhDs soon find a job in educational research, education or both. However, the career possibilities for researchers with a PhD within ICLON are limited.

National and international recognition

As a result of its long tradition in research on teaching and teacher learning ICLON is well known within the research community in the Netherlands. ICLON researchers are considered to have specific expertise on teaching and learning to teach which makes them valuable and reliable partners in research projects where multiple partners and institutes are involved. Moreover, ICLON has educated and employed a relatively high number of researchers who went on to perform and/or supervise teacher research at other institutes in the Netherlands. But even though ICLON research is well known, we need to work on the visibility of our research in public media.

The ICLON research program is embedded in a strong international network. A part of this network was established through ICLON researchers’ personal contacts with international colleagues and another part of this network is formalized in ‘Memorandums of Understanding’ with close relationships to significant universities (Stanford, Berkeley, Toronto and Sydney). Together, this
enables research staff, PhDs and postdocs to visit international universities. Furthermore, it enables world-renowned professors to visit ICLON. These exchanges result in joint conference contributions, invited lectures and, for some research staff, joint publications. Publishing alongside internationally prominent scholars is something that we want to give specific attention to and to develop more in the years to come.

1.6 Relevance to society

For the purpose of this self-evaluation, the relevance of the ICLON research program is considered to be focused on the relevance of our research for educational practices. Important characteristics of this relevance are considered to be:

- Utilization of research outcomes for improvement of practices
- Acquisition of funding for educational innovations
- Embedding research into existing educational infrastructures
- Publications, presentations and workshops for teachers

Utilization of research outcomes for improvement of practices

ICLON research is increasingly successful in the design and dissemination of practical tools and support that are relevant for educational practices. In Appendix 8a we present a survey of such practical tools and support. Many of these practical tools are already being used on a relatively large scale (see the Narrative in Appendix 2 for multiple examples). One of the focus points for the near future is to first map those teaching and learning principles that do not yet have practical tools and/or support and then, in collaboration aim to develop practical tools and/or support. Also, as ICLON has a department for secondary education (teacher education and teacher professional development) and higher education (teacher professional development and the initiation and facilitation of educational networks) we aim to strengthen the exchange between ICLON researchers and teacher educators (secondary education) and educational trainers and advisors (higher education). For this, the way in which ICLON research is mapped (according to underlying teaching and learning principles) provides a sound basis. Finally, we plan for each PhD project that starts to include at least one employee from the group of teacher educators (secondary education) or educational advisers (higher education) to act as sparring partner, to be assigned depending on topic and/or method.

Acquisition of funding for educational innovations

ICLON researchers are not only involved in the acquisition of research funding, but also often apply for funding for educational innovations in secondary or higher education. For example, three of the ICLON research staff members have obtained a Leiden Teaching Fellowship to work on specific educational innovations. Furthermore, ICLON researchers have been involved in the acquisition of a major national project around assisting novice teachers in schools (Begeleiding Startende Leraren), and in a major project financed by the Dutch government that focused on the development and implementation of challenging and differentiated instruction (Uitdagend Gedifferentieerd Vakonderwijs). Another project that ICLON researchers were involved in was an Erasmus + project which also focused on challenging and differentiated domain-specific instruction. We plan to direct more attention to the acquisition of more substantial funding, specifically aimed at valorizing and
further implementation of the educational innovations that are subject to, and based on, ICLON research.

*Embedding research into the existing educational infrastructure*

ICLON is rather unique in its identity. It is the interfaculty center of Leiden University that comprises a unique research department on the one hand and teacher education and teacher professional development in secondary and higher education on the other hand. Due to this unique identity, the expansion of teaching repertoires is subject to research within the research department, but is being effectuated via practical tools and support under the same roof. Also, in both the secondary and higher education departments, employees have an elaborate and long standing network with practitioners, schools and institutes which is oftentimes not confined to the local region ICLON. For example, most teacher educators for school subjects (vakdidactici) have a leading role in national networks for their school subject. In addition, about half of the PhDs are combining their PhD project with a teaching job. We have learned how to utilize such existing infrastructures more and more for the implementation of research outcomes. This is also strengthened by the structure of ICLON research staff members that have a research funding appointment of 0.4 FTE and are also employed in activities within the departments of secondary and/or higher education.

Besides situations where personnel is directly involved and dissemination via teacher professional development initiatives, we notice that research outcomes are framed in the form of practical tools and support that can be employed during the expansion of teaching repertoires in the settings of teacher education and of advisory work by employees from the higher education department. Meanwhile, the vision and organization of the teacher education department has been established based on insights obtained from ICLON research. In the near future we aim to utilize the existing infrastructure for continuous teacher professionalization in secondary and higher education for the implementation of research outcomes. Also, as previously stated, we want to direct more attention to the nationwide dissemination of research outcomes via different types of media.

*Publications, presentations and workshops for teachers*

The ICLON research personnel regularly publishes their work for teachers in written form, presentations and workshops (see Appendix 10). Part time PhDs often have more opportunities for this due to their employment in schools and make eager use of their double role by sharing research outcomes with colleagues at school or presenting outcomes in a broader network of schools. Dissemination of research outcomes to teachers by full-time PhDs can be improved.
1.7 Viability

In the analysis below, we list critical strengths, weaknesses, opportunities and threats (SWOT). The analysis was performed in consultation with the research group and was also informed by the evaluation outcomes from the previous external assessment. We explicate actions for the upcoming years. As most of the SWOT aspects and actions have been described in more detail in the present self-evaluation report under the appropriate headings, we chose to only include a concise overview of the SWOT analysis and actions below.

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<th>Strengths</th>
<th>Weaknesses</th>
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<td>- High profile, strong network with internationally recognized researchers within the domain of Teaching and Teacher Learning</td>
<td>- Public relations and public appearances</td>
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<tr>
<td>- Large and diverse group of PhD-students and postdocs (with a strong background either in teaching or in social science research)</td>
<td>- Limited career possibilities for researchers with a PhD</td>
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<tr>
<td>- Well-established relationships and alliances between research and practice</td>
<td>- Limited opportunities for the sharing of expertise between PhDs and postdocs with different backgrounds</td>
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<table>
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<tr>
<th>Opportunities</th>
<th>Threats</th>
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<tr>
<td>- Increase of possibilities for research in higher education and domain-specific teaching in secondary education</td>
<td>- Limited and competitive budget for educational research</td>
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<tr>
<td>- Perceived relevance of ICLON research on regional, national and international level</td>
<td>- Balance of external funds and research program coherence</td>
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<tr>
<td>- ICLON as valuable partner in both educational innovation and educational research</td>
<td>- Double focus might weaken position for more fundamental educational research</td>
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<tr>
<td>- Strategic alliances: LDE (Leiden/Delft/Rotterdam) and LERU (association of renowned research universities in Europe)</td>
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From this, we have formulated actions that will guide ICLON research program development for the upcoming evaluation period.

A. Utilize the refined profile of the ICLON research program (knowledge base for teaching repertoires) to guide the acquisition and design of new research projects and staff recruitment (SWOT 1, 2, 6, 12).

B. Strengthen research in the area of higher education. This can be done by a new professor charged specifically with educational research in higher education. By intensifying collaboration with other LU research groups, as well as expand the higher education research participation within the LERU and CEL partnerships (SWOT 7, 10, 13).

C. Build more structural alliances with sustainable national and international partners to be well-prepared for funding applications in both practice-based and fundamental research. In this, we also plan to direct more attention to the acquisition of European funding, specifically aimed at further development andvalorizing of the educational innovations that are developed by or subject to ICLON research (SWOT 1, 3, 7, 9, 11, 13).

D. Enhance the share of first author publications for the research staff, for example by converting conference contributions into papers, co-writing with other scientific staff or publish more alongside the internationally prominent scholars that visit ICLON. Special attention will be given to writing programmatic articles for open source and in top 10 educational journals (SWOT 1, 12, 13).

E. Improve the ICLON internal knowledge sharing so that research approaches and outcomes can inform other researchers, alignment between projects becomes possible and coherence can be improved. The description of our research program at the program level and in terms of underlying teaching and learning principles can facilitate knowledge sharing. Moreover we will establish special interest groups within the ICLON research group (SWOT 6, 12, 13).

F. We design and implement a pre-PhD trajectory for (prospective) dual PhDs (SWOT 2 and 6).

G. Plan for each PhD project that starts to include at least one employee from the group of teacher educators (secondary education) or educational advisers (higher education) to act as sparring partner, to be assigned depending on topic and/or method. In this way, dissemination of research outcomes to teachers (especially by full time PhDs) and usage in continuous professional development initiatives can be improved (SWOT 3).

H. Direct more attention to the acquisition of funding (or the supervision of acquisition attempts by employees in the teacher education or higher education departments) for calls that focus on the implementation of educational innovations, which could be linked to specific research outcomes (SWOT 3 and 11).

I. Increase visibility of the strong ICLON reputation in teacher research via public media. This can be done, for example, via attendance at public educational debates and teacher conferences, and by writing blogs and columns (SWOT 1, 4, 9).

J. Enlarge the impact of ICLON research by trying to influence educational policy. For example, membership of a NRO advisory board that is responsible for setting a research agenda on Higher Education. Membership of the advisory board on developing a R&D infrastructure in the Netherlands (SWOT 4, 9, 11).
Chapter 2. PhD program and diversity

ICLON has a diverse PhD population in terms of gender, age, cultural background, educational background and work experience. We believe that everyone should have the opportunity to fulfil their potential and take the following actions in this regard.

- We try to create an open and respectful research environment. Every PhD should feel welcome and supported as a member of the research community.
- The individual supervision is adapted to the PhD’s needs.
- Supervisors share their experiences with supervising PhDs with diverse backgrounds.
- In formal and informal research group meetings exchanging ideas from different backgrounds is promoted.
- Teaching diverse learners is an important topic in our research program. In multiple research projects different aspects of this complex issue are studied (like LGTB literacy, cultural responsive teaching et cetera). Therefore diversity and inclusion is a regular topic in research group meetings.
- In organized informal meetings like Happy Hours, the annual ICLON day out and the annual research group dinner there are often activities included that explicitly stimulate learning from each other’s background.

Each PhD student is supervised by at least two supervisors. The PhD student and the daily supervisor meet each other approximately once every two weeks. On average the whole team meets once a month. The supervision is ‘on demand and tailor made’. In addition to formal meetings, there are informal meetings, email contact and Skype meetings. Furthermore, PhD-students regularly discuss their projects at the monthly meetings of the entire ICLON research staff and at informal lunch meetings, where any PhD student can bring issues to the table to be discussed with other PhD-students. The progress of each project is formally discussed during an annual performance interview. All PhD-students are formally assessed by their supervisors one year after commencement in order to ascertain whether the project will be completed within the time available. PhD-students decide in consultation with their supervisors on their individual learning trajectories, which are laid down in their education and supervision plan.

ICLON policy is to encourage PhD-students to publish in international journals and to present their work at international conferences. Regularly writing papers and journal articles throughout their project is seen as the best way to enable PhD-students to produce high quality projects that are completed in time. A PhD thesis typically consists of four journal articles (submitted or accepted), preceded by an introductory chapter and concluded by a final conclusion chapter. Occasionally, as another form of training, PhD-students are invited by their supervisors to review manuscripts for journals, under their supervision.

All PhD students at Leiden University should follow 140 hours courses on academic activities (like academic writing, conference attendance etc.) and 140 hours activities focusing on transferable skills including at least one training course on academic integrity. Many ICLON PhD-students have research as their main task, but combine this with some teaching tasks. These full-time students participate in the educational program of the ICO national research school for the educational sciences once their PhD proposal has been accepted by the ICO scientific committee. These PhD-students have to dedicate 600 hours (including the 280 hours described above) of their research time to courses as follows:
1. Introductory course (5 EC or 140 hours): a four days course in which students present an overview of their PhD research proposal and the first study, review other proposals, review a PhD thesis, simulate an editorial board meeting, and acquire insight in how to work with their supervisor. Students learn about the ten themes of ICO’s research program, about the scholarly process and about scientific integrity.

2. Thematic courses (3 EC or 84 hours each): at least two thematic courses are part of the educational program, each lasting four days, in which students acquire knowledge about recent developments in various research fields representing the ten themes comprising ICO’s research program.

3. Methodology courses (3 EC or 84 hours): at least one methodology course, lasting four days, related to quantitative or qualitative methodologies.

4. Two conferences: one national two-day conference (1 EC or 29 hours) in which PhD-students present their work and receive extensive feedback from ICO staff members, not being their own supervisors; and one international five-day conference (3 EC or 84 hours) in which PhD-students present their work, receive feedback and attend thematic and methodology workshops offered by ICO staff and well-recognized international experts in the field. The two conferences are offered bi-annually. The international conference is offered in collaboration with other European universities who conduct high-quality research within the field of educational sciences. The two conferences are organized alternately during the first week of November of every year.

In sum, PhD-students spend at least 18 EC (504 hours) on the ICO educational program. PhD-students may also take courses offered by universities (graduate schools), other research schools, or summer schools offered by international organizations such as EARLI (JURE) and ESERA. These courses need to be approved by ICO and authorized by the ICO director of education.

ICLON also appointed so-called dual PhD-students who combine PhD research with a larger teaching or consultancy tasks inside or outside ICLON. As these dual PhD-students have less time available than full-time PhDs, they often attend only some of the ICO courses. In addition, PhDs involved in the DUDOC program (alfa and beta) and Regional Centre of Expertise Development of the Hague (CRK) have their own PhD training programs. Finally, many dual PhD-students attend special interest research groups related to their topic.

Recently the Leiden University PhD monitor showed that ICLON PhDs are very satisfied about their supervision. In more detail:

- The PhDs are satisfied with their PhD trajectory (7.1) and are very satisfied with the supervision (8.1). They consider their supervisors very approachable (9.0) and they consider their feedback as very useful (8.5).
- Compared with PhDs from other faculties many PhD-students score highly on ‘personal development’, ‘interaction with supervisors’ and ‘good atmosphere’. Moreover, no ICLON respondent experiences discrimination at work.
- The international PhD-students score very positively compared with PhDs from other faculties on support on arrival (8.8), although many experience housing problems (67%).

Finally it should be noted that some supervisors have been nominated regularly for the “best supervisor prize” awarded at the annual conference of the VOR (the Dutch educational research association). For success rate and career destination of PhD see the section Research quality and Appendix 6.
Chapter 3. Research integrity

ICLON highly values academic integrity and ethical conduct of research. All ICLON researchers are individually responsible for acting honestly with respect to the ways in which they design, carry out and report academic research. ICLON PhD supervisors are experienced researchers who are expected to provide guidance and modeling of appropriate ethical conduct generally, and in particular for the PhD-students and post-doctoral researchers they support. Additionally, at monthly research group meetings with all researchers, project plans, results and research methods are discussed in an open atmosphere. The prevailing culture at ICLON is one of consultation and exchange both within and between these formal meetings. ICLON PhD-students typically participate in the Introductory Course at the National Research School (ICO), during which they are introduced to the principles of ethical research and the VSNU Code of Conduct. They also discuss potential dilemmas that they could be confronted with during their PhD trajectory. For external PhD-students special attention is awarded to ethical issues during supervision meetings. ICLON’s research culture of openness and sharing combined with the research program dedicated to research on teaching and teacher learning establishes that, on the whole, researchers are academically interested in each other’s work and are collectively committed to promoting academic honesty and responsibility.

In 2014, the ICLON Research Ethics Committee (IREC) was established. The establishment of the IREC is in response both to a changing Dutch national environment in which more explicit measures of research accountability are required for those engaged in educational research and to increasing diversity within the ICLON research program to include research involving school students (i.e. potentially vulnerable participants). IREC is charged with managing procedures related to research undertaken by, or on behalf of, ICLON to ensure that it is conducted in accordance with appropriate regulations and ethical codes for academic research.

IREC has the following functions:

- To review and assess research ethics applications from ICLON researchers who are planning to conduct research that involves data collection or use of data involving human participants (see Appendix 11 for the application form);
- To provide feedback to researchers about the ethical conduct of their proposed projects;
- To review any proposed amendments to approved projects that may change the ethical status of the project;
- To provide advice related to issues arising from the ethical conduct of ICLON research to the ICLON Scientific Committee, and
- To serve an educative function within ICLON, providing information and guidance related to policies and principles concerning the conduct of ethical academic research.

During the first year the ICLON Research Ethics Committee (IREC) developed procedures related specifically to educational research and the research projects within ICLON. An application form was developed inspired by ethical procedures of other research universities internationally and in accordance with the VSNU code of conduct. A Data Management Protocol (DMP) was established in accordance with the Leiden University data management policy and the General Data Protection Regulation (GDPR). And procedures for creating audible process documents are described. The design principle for the procedures were 1) providing insight in potential ethical issues which might occur during the proposed project, 2) practical for researchers to adhere to, 3) facilitating the research projects, and 4) feasible for committee members.
From January 2017 all research projects undertaken under the auspices of ICLON are obliged to apply for consultation with the IREC before starting data collection. All applications are assessed by two committee members who provide feedback on any ethical issues which arise from the application form. Applications and feedback are discussed during the IREC committee meetings (6 times each year). The secretary of IREC communicates the required adaptations and suggestions to the principle investigator. DMP and auditable process documents are mandatory and will be archived after the moment of acceptance of a publication in a journal. For this purpose, a process document must be created which would make an audit trail possible. For PhD-students the last assessment will take place after approval by the doctoral committee. Jurisprudence of committee decrees is collected and attained through the minutes of the committee meeting. Frequent ethical concerns and solutions for research design and conduct related to the applications are rephrased and issued on the ICLON Intranet as Frequently Asked Questions. The IREC procedures and jurisprudence are assessed annually by an external member of the IREC who is independent from ICLON research.

In general activities related to the educative function of IREC focus on 1) facilitating research group meetings focuses on ethical issues and IREC procedures, 2) ongoing debate with research staff, and 3) providing helpful information and tools for ethical conduct in research. Three ICLON research group meetings have been facilitated by IREC, focusing on specific topics related to ethical conduct in research. Future meetings will include discussions about ethical issues relevant to ICLON researchers, updates regarding procedures, and podcasts about reoccurring concerns of researchers.

Ethical conduct in research is a recurring topic during academic staff meetings. Prominent issues discussed in IREC meetings are, if prudent, discussed with all research personnel. Occasionally peer meetings are organized with ICLON staff members involved in PhD supervision about academic integrity. IREC responds to queries on ethical research by individual researchers on a more structural basis. Recurring queries from individual researchers and supportive information for ethical conduct in research are posted on the ICLON intranet. Currently three sets of supportive information are maintained: 1) a list of frequently asked questions, 2) a set of good practices and 3) a set of research tools, such as informed consent documents and information documents for participants of data collection.

To date, ICLON has not experienced any dilemmas related to ethics or research integrity. Leiden University has its own Regulations on Academic Integrity, which set out the procedures relating to possible complaints about academic integrity, and the role of the confidential adviser on Academic Integrity within Leiden University. PhDs who are member of ICO can also consult their ICO counsellor. Violations of integrity can be reported to the Scientific Integrity Desk of the NWO, although this is restricted to projects that are funded or partly funded by the NWO. In addition, the Dutch National Board for Research Integrity (LOWI), an independent advisory body established since 2003 by the KNAW, NWO and VSNU, deals with complaints where there has been a preliminary decision taken by an institution in relation to a violation of research integrity.
The current IREC members are:
• dr. Roeland van der Rijst (chair)
• drs. Ben Smit
• dr. Nivja de Jong
• dr. Michiel Dam
• Kevin Zweeris MSc
• mr. Jossi Gijzen (secretary)
• External representative: dr. Helma Oolbekkink-Marchand, assistant professor, Radboud Teachers’ Academy, Radboud University; & Lector, HAN University of Applied Sciences
List of appendices

Appendix 1. Table D1. Output indicators
Appendix 2. Table D2. Narrative
Appendix 3. Table D3a. Research staff
Appendix 4. Table D3b. Main categories of research output
Appendix 5. Table D3c. Funding
Appendix 6. Table D3d. PhD students
Appendix 7. Ten most important publications
Appendix 8a. Overview Research program
Appendix 8b. List of PhD projects 2015-2017
Appendix 9. CV’s scientific staff
Appendix 11. Application for ethical approval
Appendix 12. Other relevant documents
Appendix 1. Table D1. Output indicators

For an overview of demonstrable products:

- Appendix 2: The narrative with ten examples of products with impact on practice
- Appendix 4: Main categories of research output (number of publications, editorships and invited lectures)
- Appendix 8a: Overview of the research program in terms of theoretical and practical output
- Appendix 10: All scientific and professional publications
Appendix 2. D2. Narrative

A distinctive character of the ICLON research program is its double focus of developing theory and practice, which means that the research projects of the program aim at simultaneously contributing to the improvement of educational practice and generating knowledge about this practice. To this end, we chose to use multiple complementary strategies (see 1.4.5): research about teachers practical knowledge; research performed within the complexity of authentic teaching practices; research questions that stem from such practices; teachers that are involved in designing and performing research; teachers as researchers; and a so-called bridging approach in which an innovative educational approach is made practical for teachers. Research with this double focus on both theory and practice development in most cases results in development of teaching practices involved in the research project. Also, our research often results in practical tools that are transferable to other settings outside of the research population (see Appendix 8a for an overview). Next, we present ten examples that illustrate the practical impact of our research program.

Example 1 - Induction program for beginning teachers

Within the setting of a nationwide induction program for beginning teachers (Dutch: BSL) a range of projects from all over the Netherlands have resulted in a knowledge base of how teachers can effectively collaborate to stimulate professional development. Specifically for the region where ICLON is located (Zuid-Holland), a regional project was initiated which explicitly build upon ICLON research about teacher professional learning communities. In this regional project, a total amount of 105 schools, 150 school based teacher educators and more than 700 novice teachers were involved. The project also involved ICLON teacher educators from the teacher training program that collaborated with school based teacher educators from various schools to develop a three year induction program for novice teachers that met specific school requirements.

Example 2 – SpeakTeach app in foreign language education

In her PhD project, researcher de Vrind has developed a practical approach for teachers by which they can provide adaptive feedback and support to improve students’ speaking skills in secondary education. She designed and tested an app that allows students to test their speaking ability and devise a plan for improvement. Next, students received adaptive support for improvement. The app is used in 10 schools and many foreign language teachers use her approach without this digital tools. Also, an educational publisher has stated they would be interested to offer this tool to its users.

Example 3 - Self- and peer assessment with video

One of the projects funded by CEL (a collaboration between Leiden University, Delft University and Erasmus University) was to support the use of online video platforms (Kaltura and Pitch2Peer) to facilitate reflection and feedback on professional practice, such as giving presentations. Within this broader project, one of the tools was the use of self- and peer assessment with video in courses on professional practice which was subject to ICLON research. During this project, several institutes of Leiden University became so enthusiastic that they implemented the use of video platforms for peer and self-assessment (faculties of Anthropology, Child and Education Studies, Politicology, Astronomy and ICLON).
Example 4 - Collaborative learning tasks

The PhD project of researcher De Hei resulted in a tool aimed at designing collaborative learning tasks in higher education. Based on a problem analysis and the ADDIE-framework, collaborative tasks can be designed in a step-wise way starting with the phase of Analysis (characteristics of the target group), followed by a Design (of group interaction, learning goals and assessment), the Development (of tasks, structures, guidance group constellation and facilities), and the Implementation and Evaluation.

Example 5 – Whole task first and scaffolding

Whole task first and scaffolding are two very powerful principles for the design of multiple approaches to education. For teachers, we noticed that it can be hard to design the whole tasks and adaptive support. Therefore bridging research was conducted to develop a toolbox for teachers that they could use to redesign their regular teaching approaches to that of whole task first with adaptive support. With this toolbox, teachers were supported to stepwise expand their teaching repertoires. Development of the toolbox included the elaboration for many school subjects for which many subject method teacher educators (vakdidactici) from multiple teacher education institutes. Together, this resulted in the publication of an online available book called (Dutch) ‘Uitdagend gedifferentieerd vakonderwijs’ (2016) and several brochures and videos that were downloaded over 10.000 times. Dissemination of the toolbox was performed via train the trainer courses and workshops at schools (both national and international), professional learning communities, use in at least three teacher education curricula and a small private online course (SPOC). In this way over 5000 teachers have learned to work with the toolbox.

Example 6 – Goal systems

Goal systems have been used in several projects to both understand teaching practice and for the development of targeted support. We have developed a method for co-constructing goal system with teachers, called the laddering interview. This method is being used in teacher education programs of at least three teacher education institutes and has been described in the book ‘Uitdagend gedifferentieerd vakonderwijs’ (2016) and the accompanying SPOC.

Example 7 – Construction of a teaching & learning guide

In 2016/2017 the higher education department was asked to develop a teaching & learning guide in which the eight ambitions form the Leiden University education vision were explained and were illustrated with practical tips for teachers. Higher education staff and researchers were assigned to the ambitions related to their expertise. The ambitions were explained and illustrated based on educational theories, current research and development projects. Knowledge from ICLON projects with a variety of topics such as formative assessment, research-based teaching & learning, active learning, technology and education and intercultural education were incorporated in the Teaching & Learning guide for academics teaching at Leiden University.
Example 8 – Bridging approach

At the ICLON, we have established a research methodology for making innovative teaching approaches practical for teachers. This bridging approach has been successfully applied to innovations such as guided discovery learning, learning by designing, context-based education, differentiated instruction, open inquiry practicals and formative assessment. This resulted in practical toolkits for these innovations that can be and are applied in teacher education programs, school based workshops and professional learning communities.

Example 9 – Teacher research labs

In research labs, 4-7 teacher-researchers from schools and a university jointly perform research about a shared problem in school practice. The aims of research labs are not only to stimulate teachers’ professional development (both as teacher and teacher-researcher), but also to improve teaching practices and to generate insights about this practice. During one school-year, a research lab follows a complete empirical cycle starting with an orientation phase on the research problem and finishing with a research report, preferably in an article ready to be published. Examples are first a research lab named Calvijn Goes and a research lab named Lucas Den Haag. Research lab Calvijn Goes examined how to teach reading strategies in science and social sciences in secondary education. Research lab Lucas Den Haag examined how to support students’ autonomy in primary education. Both labs completed their work by publishing a journal article.

Example 10 – Perspectives as domain-specific thinking tools

Perspectives represent ways of domain-specific ways of thinking. On the basis of multiple research projects that each focused on such perspectives within a specific domain, we developed a methodological approach of how to elaborate and represent these perspectives effectively. Next, teacher educators from ICLON and some other teacher education institutes have elaborated perspectives for a great number of school subjects that have been published in a joint book called (Dutch) ‘Wat is echt de moeite waard om te onderwijzen. Een perspectiefgerichte benadering’ (free online available) and attention for perspectives in several teacher education institutes, subject specific method courses (vakdidactiek). These perspectives also play a role in the development of new national curriculum framework (project curriculum.nu).
### Appendix 3. Table D3a. Research staff (number/in full time equivalents)

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific Staff(^1)</td>
<td>7/2.80</td>
<td>9/3.93</td>
<td>11/4.82</td>
</tr>
<tr>
<td>Post-docs(^2)</td>
<td>7/1.16</td>
<td>7/3.48</td>
<td>9/3.86</td>
</tr>
<tr>
<td>Standard PhD students(^3)</td>
<td>13/8.99</td>
<td>19/10.20</td>
<td>16/11.87</td>
</tr>
<tr>
<td>Contract PhD students(^4)</td>
<td>17</td>
<td>13</td>
<td>29</td>
</tr>
<tr>
<td><strong>Total Research staff(^5)</strong></td>
<td><strong>12.95</strong></td>
<td><strong>17.59</strong></td>
<td><strong>20.55</strong></td>
</tr>
<tr>
<td>Support staff</td>
<td>0.14</td>
<td>0.42</td>
<td>0.46</td>
</tr>
<tr>
<td><strong>Total staff</strong></td>
<td><strong>13.09</strong></td>
<td><strong>18.01</strong></td>
<td><strong>21.00</strong></td>
</tr>
</tbody>
</table>

\(^1\) Comparable with WOPI categories HGL, UHD and UD; tenured and non-tenured staff. Two emeritus professors are not included.

\(^2\) Comparable with WOPI category Onderzoeker

\(^3\) Standard PhD students are employed at ICLON

\(^4\) Contract PhDs (externally or internally funded are not employed: only numbers of PhDs are provided

\(^5\) Total staff= research staff employed at ICLON
Appendix 4. Table D3b. Main categories of research output\textsuperscript{6}

<table>
<thead>
<tr>
<th>Category</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refereed articles</td>
<td>22</td>
<td>37</td>
<td>33</td>
</tr>
<tr>
<td>Books</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Book chapters\textsuperscript{7}</td>
<td>11</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>PhD theses</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Professional publications\textsuperscript{8}</td>
<td>9</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Other research output:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Editorships</td>
<td>18</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Invited/inaugural lectures</td>
<td>19</td>
<td>5</td>
<td>11</td>
</tr>
</tbody>
</table>

\textsuperscript{6} This table reflects existing information agreements between the universities and the Dutch government.
\textsuperscript{7} Book chapters excluding conference proceedings.
\textsuperscript{8} Publications aimed at professionals in the public and private sector (“professionele publicaties”), excluding research reports.
### Appendix 5. Table D3c. Funding (between brackets refer to %)

<table>
<thead>
<tr>
<th>Funding in fte</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
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<tbody>
<tr>
<td>Direct funding⁹</td>
<td>6,49</td>
<td>6,24</td>
<td>8,46</td>
</tr>
<tr>
<td></td>
<td>(50)</td>
<td>(35)</td>
<td>(40)</td>
</tr>
<tr>
<td>Research grants¹⁰</td>
<td>0,27</td>
<td>5,31</td>
<td>4,12</td>
</tr>
<tr>
<td></td>
<td>(2)</td>
<td>(29)</td>
<td>(20)</td>
</tr>
<tr>
<td>Contract research¹¹</td>
<td>1,68</td>
<td>1,86</td>
<td>4,95</td>
</tr>
<tr>
<td></td>
<td>(13)</td>
<td>(10)</td>
<td>(24)</td>
</tr>
<tr>
<td>Other¹²</td>
<td>4,65</td>
<td>4,60</td>
<td>3,48</td>
</tr>
<tr>
<td></td>
<td>(36)</td>
<td>(26)</td>
<td>(17)</td>
</tr>
<tr>
<td>Total funding</td>
<td>13,09</td>
<td>18,01</td>
<td>21,00</td>
</tr>
<tr>
<td></td>
<td>(100)</td>
<td>(100)</td>
<td>(100)</td>
</tr>
</tbody>
</table>

**Expenditure in €**

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel costs</td>
<td>1032</td>
<td>1,570</td>
<td>1,759</td>
</tr>
<tr>
<td></td>
<td>(83)</td>
<td>(88)</td>
<td>(84)</td>
</tr>
<tr>
<td>Other costs</td>
<td>208</td>
<td>220</td>
<td>331</td>
</tr>
<tr>
<td></td>
<td>(17)</td>
<td>(12)</td>
<td>(16)</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td>1240</td>
<td>1,790</td>
<td>2,090</td>
</tr>
<tr>
<td></td>
<td>(100)</td>
<td>(100)</td>
<td>(100)</td>
</tr>
</tbody>
</table>

---

⁹ Direct funding (basisfinanciering/lump-sum budget)
¹⁰ Research grants obtained in national scientific competition (i.e. grants from NOW/NRO)
¹¹ Research contracts for scientific research projects obtained from external organisations, such as industry, government ministries, European organizations and charitable organizations
¹² Indirect funding from Leiden University Board and from Centre of Education and Learning (CEL) of the strategic alliance of the universities of Leiden, Rotterdam and Delft
### Appendix 6. Table 3d. PhD students

<table>
<thead>
<tr>
<th>Starting year</th>
<th>Enrollment male/female</th>
<th>Enrollment Total</th>
<th>Graduated &lt; 4 years</th>
<th>Graduated 5 years</th>
<th>Graduated 6 years</th>
<th>Graduated &gt; 6 years</th>
<th>Not yet finished</th>
<th>Discontinued</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1/2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>14</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2012</td>
<td>0/4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2013</td>
<td>1/6</td>
<td>7</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2014</td>
<td>1/6</td>
<td>7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>2015</td>
<td>4/4</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>2016</td>
<td>1/2</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>2017</td>
<td>6/10</td>
<td>16</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>48</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>37</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

---

13 All PhD students conducting research with the primary aim/obligation of graduating. This includes PhD students with employee status (standard PhDs) and contract PhD-students without employee status, receiving external funding, who are conducting research under the authority of the research unit with the primary aim of graduating (Contract PhDs). Success rate is based on 1,0 fte for 4 years.

14 Due to personal circumstances.
Appendix 7. Ten most important publications

7.1 Five most important scientific publications and/or other scientific outputs in 2015-2017


7.2 Five most important societal publications and/or other societal outputs in 2015-2017


<table>
<thead>
<tr>
<th>Teaching and Learning Principle</th>
<th>Theoretical Perspective(s)</th>
<th>Practical tools and support</th>
<th>ICLON research staff involved</th>
<th>Ongoing projects including content domain and level (secondary education (SE); higher education (HE))</th>
<th>Focus</th>
<th>Sector</th>
<th>Educational purpose domain</th>
</tr>
</thead>
</table>
| Perspective based             | Learning is promoted when learners (learn to) use domain-specific ways of thinking (formulated in question agendas) to explore, structure and solve disciplinary or interdisciplinary tasks | Ecological                  | • Perspectives elaborated for many subjects.  
• Mapping and sorting tasks for eliciting and assessing perspectives  
• Perspectives as design tool (lessons, learning progressions and curricula)  
• Perspectives as thinking tools for students | Janssen Dam  
Landa: Chemistry/ Particle & Thermodynamical perspectives  
Kraakman; Chemistry/Particle/Experimental Design perspective  
Den Otter: Chemistry/Particle/Demonstration practicals  
Ottenhof: Biology/ Ecological perspective  
De Boer: Biology / Multiple biological perspectives for lesson design | Focus  
Secondary Education | Student learning (SE)  
Teacher learning (T)  
Educational purpose domain | Focus  
Secondary Education | Student learning (SE)  
Teacher learning (T)  
Educational purpose domain |
| Whole task first              | Learning is promoted when learners acquire component knowledge and skills in the context of (real-world) tasks. Learning is promoted when support is adapted to learners needs | Situated Cognitive           | • Toolkits for making a range of general and domain specific teaching approaches practical:  
  o Direct instruction  
  o Cognitive apprenticeship  
  o Inquiry based learning  
  o Adaptive teaching  
• Set of tasks to trigger intercultural sensitive teaching  
• Guidelines for professional development of teacher in transnational higher education  
• Metaphors of research and researchers  
• TTQ: Teaching with technology Questionnaire  
• Critical incident tasks  
• Geographical mysteries  
• Scrum scenario  
• Overview of serious games | Janssen Dam  
De Jong  
Admiraal  
Berry  
Meirink  
Saab  
Van der Rijst  
Van Driel  
Tran: intercultural awareness in EFL teaching  
Karkdijk: mysteries in Geography teaching  
Van der Kamp: creative problem-finding in visual arts education  
Vogelzang: The use of Scrum pedagogy in chemistry education  
Huizenga: Games-based learning  
Kragten: process diagram in biology  
Landa: Chemistry/ Particle & Thermodynamical perspectives  
Kraakman; Chemistry/Particle/Experimental Design perspective  
Den Otter: Chemistry/Particle/Demonstration practicals  
Ottenhof: Biology/ Ecological perspective  
De Boer: Biology / Multiple biological perspectives for lesson design  
Wieringa: Biology / Lesson design  
De Winde: Dutch /Paragraph writing | Focus  
Secondary Education | Student learning (SE)  
Teacher learning (T)  
Educational purpose domain | Focus  
Secondary Education | Student learning (SE)  
Teacher learning (T)  
Educational purpose domain |
<table>
<thead>
<tr>
<th>Teaching and Learning Principle</th>
<th>Theoretical Perspective(s)</th>
<th>Practical tools and support</th>
<th>ICLON research staff involved</th>
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<td>Van Kampen: CLIL teaching / Teacher and students</td>
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<td>Zwaanswijk: Kenniswerkplaats diversiteit</td>
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<td>Lamers: transnational education and professional learning / Teacher</td>
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<td>Theeuwes: Intercultural sensitivity in teaching / Teacher and students</td>
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<td>Research lab Calvijn Goes: Teaching reading skills in Science and Social Sciences / Teacher and students</td>
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<td>Research lab Lucas Den Haag: Teaching autonomy in primary education / Teacher and students</td>
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<td>NRO-project. Learning progressions for science teachers for inquiry-based teaching</td>
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<td>Recognition based heuristic search</td>
<td>Learning is promoted when learners (learn to) recognize problem types and (learn to) use heuristics (cost-effective procedures) to selectively search the remaining space.</td>
<td>• Tools for eliciting several levels of recognition and related heuristics</td>
<td>Janssen</td>
<td>Kop: Mathematics / Graphing formulas</td>
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<td>• Tools for designing education that support recognition based heuristic search for solving complex problems.</td>
<td>Janssen</td>
<td>Pouwelse: Primitive functions</td>
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<td>Teaching and Learning Principle</td>
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</table>
| Goal system based             | Learning is promoted when it builds on learners multiple goals (these goals are organized in a multilevel hierarchy of goals and means) | Ecological                   | - Laddering interview method for co-constructing goal systems  
- PPA-CCT methodology for studying career choice for teaching  
- See also bridging methodology (below) | Janssen Dam De Jong Tigelaar | Wieringa: Biology / Lesson design  
Oyserman: Sign language  
Zweeris: Balancing qualification, socialization and personal development  
Jia: Mathematics / Chinese math reform  
Kuijpers: STEM / Teacher career choices  
Oyserman: Religious education / Practical knowledge for promoting religious identity development | x | x | x | x | x | Student learning (ST) | Teacher learning (T) | Secondary Education | Higher Education | Qualification | Socialization | Personal Development |
| Bridging                      | Learning is promoted when it allows learners to expand their repertoire by stepwise recombinations and adaptations of existing building blocks (modularity) in a way that enable them to see each step as better way to achieve their personally valued goals (satisfying). | Ecological                   | - Bridging methodology for developing learning trajectories for teachers to expand their repertoire (in the context of educational reforms) | Janssen Dam De Jong | Jia: Mathematics / Chinese math reform  
Soto Koelemeijer: Mathematics. Shaping Mathematics into stories  
Den Otter: Chemistry/Particle/Demonstration practicals  
Ottenhof: Biology/ Ecological perspective  
De Vrind: Foreign languages /Adaptive teaching of speaking skills  
De Winde: Dutch /Paragraph writing | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Learning from success         | Learning is promoted when learners formulate resolutions based on reflection on positive experiences. | Ecological Cognitive         | - Tools for learning from success experiences  
- MECI-interview (motivating for educational change interview) to develop intentions for change in the context of educational reforms | Janssen Tigelaar | Dam: Using a modular, success-oriented approach to make activating teaching methods practical for pre-service science teachers.  
De Boer. Multiple perspectives and learning from success in lesson design | x | x | x | x | x | x | x | x | x |

**Appendix 8a. Overview Research program**
<table>
<thead>
<tr>
<th>Teaching and Learning Principle</th>
<th>Theoretical Perspective(s)</th>
<th>Practical tools and support</th>
<th>ICLON research staff involved</th>
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<tbody>
<tr>
<td>Collaborative learning</td>
<td>Cognitive Situated Ecological</td>
<td>Design tool for collaborative learning tasks in higher education</td>
<td>Admiraal Berry Meirink Saab Van der Rijst</td>
<td>De Hei: collaborative learning x x x x</td>
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<td>List of open resources for HE</td>
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<td>Smit: Teachers and students as partners in research x x x x</td>
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<td>SCAN Schools as PLC</td>
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<td>Van Schaik: Teachers’ knowledge co-construction x x</td>
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<td>SCSS: Sense of Community in School Scale</td>
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<td>Rumiantssew: Learning labs in conservatoire education x x x</td>
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<td>De Jong: professional learning communities x x</td>
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<td>Galikyan: collaborative learning in online settings x x x</td>
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<td>Guo: remote learnings labs x x</td>
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<td>Baas: Teaching with Open Online Resource x x x</td>
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<td>NRO-project (PPO): teachers’ knowledge sharing</td>
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<td>Feedback</td>
<td>Situated</td>
<td>Tools for (peer) feedback</td>
<td>Admiraal Berry Meirink Saab Tigelaar Van Driel</td>
<td>Jin: v-expert interaction in professional learning x x</td>
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<td>Zhang: University-school partnerships in professional learning x x x x</td>
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<td>Wurth: feedback in L1 teaching x x x</td>
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<td>Day: intermediate assessment x x x</td>
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<td>Huisman: peer feedback x x x</td>
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<td>CEL-project: self- and peer assessment in teacher education x x</td>
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<td>Interest</td>
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<td>Tool for mapping students’ interest</td>
<td>Akkerman Bronkhorst Ziegler: multiple interests pre-university and university education x x x x x</td>
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**Appendix 8a. Overview Research program**

**Teaching and Learning Principle**

**Theoretical Perspective(s)**

**Practical tools and support**

**ICLON research staff involved**

**Ongoing projects including content domain and level (secondary education (SE); higher education (HE))**

**Focus**

**Sector**

**Educational purpose domain**

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**Collaborative learning**

Learning is promoted when learners share ideas and experiences, assist each other and work together

- Design tool for collaborative learning tasks in higher education
- List of open resources for HE
- SCAN Schools as PLC
- SCSS: Sense of Community in School Scale

**Feedback**

Learning is promoted when learners receive feedback that connects their needs and competency

- Tools for (peer) feedback

---

**Interest**

Learning is promoted when it builds on students’ interest

- Tool for mapping students’ interest
### Appendix 8a. Overview Research Program

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<tr>
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<td>Draijer: multiple interests general and higher education x x x x x</td>
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<td>Beek: multiple interests pre-vocational and vocational education x x x x x</td>
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<td>Vulperhorst: multiple interests from secondary to higher education x x x x x</td>
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<td>Slot. Multiple interest in and out of school over time x x x x x</td>
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<td>Engaging</td>
<td>Learning is promoted when learners pay dedicated attention to their learning process and tasks</td>
<td>Cognitive Situated</td>
<td>Taxonomy of MOOCs, Tool to measure L2 motivation</td>
<td>Kroneman: peer educator intervention in LGBT education x x x</td>
<td>Teacher learning (T)</td>
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<td>Student learning (ST), Teacher learning, Secondary Education, Higher Education</td>
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<td>Pilli (postdoc): learning objectives and outcomes of MOOCs x x x x</td>
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<td>Connecting</td>
<td>Learning is promoted when learners feel connected to school and schooling</td>
<td>Cognitive Situated</td>
<td>List of democratic values in education, QTI-SE: Quantitative measurement of teachers' self-efficacy in interpersonal relationships with students</td>
<td>Moses: student-teachers engagement with teaching x x</td>
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<td>Keijzer: rebound programs for at-risk adolescents x x x</td>
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<td>Le: democratic values in Vietnamese education x x x</td>
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<td>Teaching and Learning Principle</td>
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<td>Veldman: Interpersonal relationships of veteran teachers</td>
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<td>Wang: technology in rural schools</td>
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<td>Louws: Teachers’ learning during their career</td>
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<td>Chen: Teachers’ identity in language teaching</td>
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Appendix 8b. List of PhD projects (2015-2017) in alphabetic order

Project title: Het professionaliseren van opleidingsteams om te komen tot institutionalisering van Open en Online Onderwijs
Duration: 2017-2021
PhD student: M. Baas
Supervisor: Prof. dr. W.F. Admiraal
Co-supervisor: dr. E. ten Berg (Saxion Hogeschool Enschede)

Project title: Lost in transition? Multiple Interests in Contexts of Education, Leisure and Work
Duration: 2017-2018 (Completion in Utrecht)
PhD student: J. Beek
Supervisor: Prof. dr. S.F. Akkerman
Co-supervisor: Dr. L.H. Bronkhorst

Project title: The use of a practical model by beginning teachers to learn to design lessons
Duration: 2014-2019
PhD student: E. de Boer
Supervisors: Prof. Dr. F.J.J.M. Janssen Prof & Prof. dr. J.H. van Driel
Co-supervisor: Dr. M. Dam

Project title: Cultural identities of non-native English teachers in China and the Netherlands: A comparative study
Duration: 2009-2015
PhD student: D. Chen (finished; promotion date: December 6, 2017)
Supervisor: Prof. dr. N. Verloop
Co-supervisor: Dr. E.H. Tigelaar

Project title: Intermediate Assessment in Higher Education: Characteristics, perceptions, and effects
Duration: 2013-2018
PhD student: I.N.Z. Day (finished; promotion date: June 28, 2018)
Supervisor: Prof. dr. W.F. Admiraal & Prof. dr. P.M. Westenberg (FSW/UL)
Co-supervisor: Dr. F.M. van Blankenstein

Project title: Lost in transition? Multiple Interests in Contexts of Education, Leisure and Work
Duration: 2017-2018 (Completion in Utrecht)
PhD student: J. Draijer
Supervisor: Prof. dr. S.F. Akkerman
Co-supervisor: Dr. L.H. Bronkhorst

Project title: Feedback for enhancing cognitive engagement in online settings
Duration: 2014-2019
PhD student: I. Galikyan
Supervisor: Prof. dr. W.F. Admiraal & Prof. dr. L. Kester (UU)

Project title: Making mentoring match: Mentor teachers’ practical knowledge about adaptive mentoring and individual differences between student teachers
Duration: 2007-2018
PhD student: G. van Ginkel (finished; promotion date: November 6, 2018)
Supervisor: Prof. dr. N. Verloop
Co-supervisor: H. Oolbekkink (Radboud Universiteit Nijmegen)
**Project title:** Remote prototype labs and student engagement and achievement in higher education  
**Duration:** 2017-2021  
**PhD student:** P. Guo  
**Supervisor:** Prof. dr. W.F. Admiraal  
**Co-supervisor:** dr. N. Saab

**Project title:** Collaborative learning in higher education: Design, implementation and evaluation of group learning activities  
**Duration:** 2012-2016  
**PhD student:** M. de Hei (finished; promotion date: July 5, 2016)  
**Supervisor:** Prof. dr. W.F. Admiraal  
**Co-supervisor:** Prof. dr. J.W. Strijbos (Ludwig-Maximilians-Universität München) & Dr. E. Sjoer (Haagse Hogeschool)

**Project title:** Peer feedback on academic writing: Effects on performance and the role of task-design  
**Duration:** 2013-2018  
**PhD student:** B.A. Huisman (finished; promotion date: September 12, 2018)  
**Supervisor:** Prof. dr. J.H. van Driel & Prof. dr. P. van den Broek (FSW/UL)  
**Co-supervisor:** Dr. N. Saab

**Project title:** How to make Chinese Mathematics Curriculum Reform practical for teachers?  
**Duration:** 2017-2022  
**PhD student:** X. Jia  
**Supervisor:** Prof. dr. F.J.J.M. Janssen  
**Co-supervisor:** dr. M. Dam

**Project title:** Professional Learning Communities at vocational schools in China  
**Duration:** 2017-2021  
**PhD student:** X. Jin  
**Supervisor:** Prof. dr. W.F. Admiraal  
**Co-supervisor:** dr. J.A. Meirink & Dr. A. van der Want (Hogeschool Arnhem-Nijmegen)

**Project title:** Interdependency between teachers in professional learning communities on differentiated teaching based on cognitive differences of students  
**Duration:** 2015-2020  
**PhD student:** L. de Jong  
**Supervisor:** Prof. dr. W.F. Admiraal  
**Co-supervisor:** dr. J. Meirink

**Project title:** Integrating language and content for learning in secondary school CLIL classrooms: How do teachers construct, use, share and develop their knowledge for practice  
**Duration:** 2013-2019  
**PhD student:** E. van Kampen  
**Supervisor:** Prof. dr. W.F. Admiraal & Prof. dr. A.K. Berry (Monash University Melbourne))  
**Co-supervisor:** Dr. J.A. Meirink

**Project title:** Effectiveness of social programs for at-risk adolescents  
**Duration:** 2012-2019  
**PhD student:** R. Keijzer-Groot  
**Supervisor:** Prof. dr. W.F. Admiraal  
**Co-supervisor:** Dr. R.M. van der Rijst & Dr. E.J. van Schooten (Hogeschool Rotterdam)
Project title: Ziek thuis, maar toch in de klas
Duration: 2017-2022
PhD student: S. Klunder
Supervisor: Prof. dr. W.F. Admiraal
Co-supervisor: dr. N. Saab

Project title: Teaching graphing formulas to improve students’ symbol sense
Duration: 2011-2020
PhD student: P.M.G.M. Kop
Supervisors: Prof. dr. ir. F.J.J.M. Janssen, Prof. dr. J.H. van Driel & Prof. dr. P. Drijvers (UU)

Project title: Participative interventions in lower vocational education
Duration: 2014-2019
PhD student: M. Kroneman
Supervisor: Prof. dr. W.F. Admiraal
Co-supervisor: Dr. M. Ketelaars (Haagse Hogeschool)

Project title: Transnational education and its impact on the host college
Duration: 2015-2020
PhD student: A. Lamers
Supervisor: Prof. dr. W.F. Admiraal
Co-supervisor: Dr. R.M. van der Rijst

Project title: Professional learning: What teachers want to learn
Duration: 2011-2015
PhD student: M. Louws (finished; promotion date: July 6, 2016)
Supervisor: Prof. dr. J.H. van Driel & Prof. dr. K. van Veen (RUG)
Co-supervisor: Dr. J.A. Meirink

Project title: Student teachers’ commitment to teaching
Duration: 2013-2017
PhD student: I. Moses (finished; promotion date: September 7, 2017)
Supervisor: Prof. dr. W.F. Admiraal & Prof. dr. A.K. Berry (Monash University Melbourne)
Co-supervisor: Dr. N. Saab

Project title: Effect of demonstration experiments on the quality of the micro-macro thinking of chemistry students
Duration: 2017-2022
PhD student: M.J. den Otter
Supervisor: Prof. dr. ir. F.J.J.M. Janssen, Prof. dr. M. Noteborn
Co-supervisor: Dr. L. Juurlink

Project title: Core teaching practices for promoting religious identity development in Religious Education
Duration: 2011-2018
PhD student: J. den Ouden
Supervisor: Prof. dr. ir. F.J.J.M. Janssen & Prof. dr. C. Bakker

Project title: Teaching sign language
Duration: 2017-2021
PhD student: J. Oyserman
Supervisor: Prof. dr.ir. F.J.J.M. Janssen
Co-supervisor: Dr. N.H. de Jong; Dr. V.A.S. Nyst
Project title: Teaching ecological thinking  
Duration: 2017-2022  
PhD student: K. Ottenhof  
Supervisor: Prof. dr. ir. F.J.J.M. Janssen  
Co-supervisor: dr. H. Westbroek

Project title: Teaching beliefs of academics in medical education  
Duration: 2017-2021  
PhD student: M. Ottenhoff  
Supervisor: Prof. dr. A. Kramer (LUMC)  
Co-supervisor: Dr. R.M. van der Rijst

Project title: Toward a framework that integrates content-based and process-based accounts of mathematical thinking  
Duration: 2017-2022  
PhD student: S. Pouwelse  
Supervisor: Prof. dr. ir. F.J.J.M. Janssen, Prof. dr. B. Edixhoven

Project title: Collaborative learning labs in conservatoire education  
Duration: 2014-2020  
PhD student: T. Roemjantsev  
Supervisor: Prof. dr. W.F. Admiraal  
Co-supervisor: Dr. R.M. van der Rijst & Prof. dr. R. Smilde (Hanze Hogeschool/Universiteit voor muziek en toneel Wenen)

Project title: Multilingualism in German schools in the Netherlands  
Duration: 2015-2016  
PhD student: A. Sander  
Supervisor: Prof. dr. W.F. Admiraal

Project title: Understanding emergence and growth of interests in daily life  
Duration: 2015-2018 (Completion in Utrecht)  
PhD student: E. Slot  
Supervisor: Prof. dr. S.F. Akkerman  
Co-supervisor: L. Bronkhorst

Project title: Teachers and students as partners in researching educational practice  
Duration: 2015-2019  
PhD student: Drs. B.H.J. Smit  
Supervisor: Prof. dr. W.F. Admiraal  
Co-supervisor: Prof. dr A. Berry (Monash University Melbourne)

Project title: Teacher heuristics in secondary education  
Duration: 2013-2016  
PhD student: E. Stoutjesdijk, MSc  
Supervisor: Prof. dr. J.H. van Driel  
Co-supervisor: Prof. dr. ir. F.J.J.M. Janssen

Project title: Examining teachers’ development during a school innovation: Stimulating differentiated student talent development  
Duration: 2013-2016  
PhD student: S. Stollman (finished; promotion date: May 23, 2018)  
Supervisor: Prof. dr. J.H. van Driel & Prof. dr. P.M. Westenberg  
Co-supervisor: Dr. J.A. Meirink
<table>
<thead>
<tr>
<th>Project title</th>
<th>Duration</th>
<th>PhD student</th>
<th>Supervisor</th>
<th>Co-supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democracy in Education in communist countries: The views of teacher trainees</td>
<td>2017-2021</td>
<td>T. Than Tin Le</td>
<td>Prof. dr. W.F. Admiraal</td>
<td>dr. D. Tigelaar</td>
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<tr>
<td>and pupils in Vietnam</td>
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<tr>
<td>Preparing preservice teachers for culturally responsive classroom management</td>
<td>2016-2020</td>
<td>B. Theeuwes</td>
<td>Prof. dr. W.F. Admiraal &amp; Prof. dr. E. Denessen</td>
<td>dr. N. Saab</td>
</tr>
<tr>
<td>Cultural differences in Vietnam: Differences in work-related values between</td>
<td>2014-2018</td>
<td>T.T.Q. Tran (finished; promotion</td>
<td>Prof. dr. W.F. Admiraal</td>
<td></td>
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<tr>
<td>Western and Vietnamese culture and cultural awareness at higher education</td>
<td></td>
<td>date: September 19, 2018)</td>
<td></td>
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</tr>
<tr>
<td>Stay or leave? Veteran teachers’ relationships with students and job</td>
<td>2012-2016</td>
<td>I. Veldman (finished; promotion</td>
<td>Prof. dr. W.F. Admiraal &amp; Prof. dr. J.W.F. van Tartwijk (UU)</td>
<td>Dr. M.T. Mainhard</td>
</tr>
<tr>
<td>satisfaction</td>
<td></td>
<td>date: September 27, 2017)</td>
<td></td>
<td>(UU)</td>
</tr>
<tr>
<td>Student engagement in research in medical education</td>
<td>2013-2018</td>
<td>M. Vereijken (finished; promotion</td>
<td>Prof. dr. J.H. van Driel &amp; Prof. dr. F.W. Dekker (LUMC/Universiteit Leiden)</td>
<td></td>
</tr>
<tr>
<td>Introducing research and design in secondary science education</td>
<td>2014-2019</td>
<td>T.E. Vossen</td>
<td>Prof. dr. J.H. van Driel &amp; Prof. dr. M.J. de Vries (TUD)</td>
<td>Dr. F.A. Henze-Rietveld (TUD)</td>
</tr>
<tr>
<td>Adaptive feedback on student dialogues in Foreign Languages</td>
<td>2014-2019</td>
<td>E. de Vrind</td>
<td>Prof. Dr. F.J.J.M. Janssen &amp; Prof. dr. J.H. van Driel</td>
<td></td>
</tr>
<tr>
<td>Students’ interests and their higher educational choice</td>
<td>2015-2018</td>
<td>J. Vulperhorst</td>
<td>Prof. dr. S.F. Akkerman</td>
<td>Dr. R.M. van der Rijst</td>
</tr>
<tr>
<td>(Completion in Utrecht)</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Project title: Digital education in rural schools
Duration: 2017-2021
PhD student: J. Wang
Supervisor: Prof. dr. W.F. Admiraal
Co-supervisor: dr. D. Tigelaar

Project title: Teacher knowledge and lesson design
Understanding and supporting biology teachers’ decision-making while designing context-based lessons
Duration: 2007-2018
PhD student: N. Wieringa (finished; promotion date: January 23, 2019)
Supervisor: Prof. dr.ir. F.J.J.M. Janssen & Prof. dr. J.H. van Driel

Project title: Teaching paragraph writing
Duration: 2017-2021
PhD student: A.W.C. van Winden
Supervisor: Prof. dr. T van Haaften, Prof. dr.ir. F.J.J.M. Janssen & Prof. dr. K. de Glopper
Co-supervisor: Dr. N. Stukker

Project title: Academics’ role identities and role transitions at new universities: Novel researcher roles alongside current teacher roles
Duration: 2012-2019
PhD student: M.A. van Winkel
Supervisor: Prof. dr. J.H. van Driel & Prof. dr. R.F. Poell (UvT)
Co-supervisor: Dr. R.M. van der Rijst

Project title: Feedback om spreekend te leren betogen! De relatie tussen feedback en de mondelinge vaardigheden van leerlingen in de lessen Nederlands
Duration: 2016-2020
PhD student: A. Wurth
Supervisor: Prof. dr. W.F. Admiraal & Prof. dr. J.A de Jong
Co-supervisor: dr. D. Tigelaar

Project title: Quality of instruction in open online education
Duration: 2015-2019
PhD student: T. van der Zee
Supervisor: Prof. dr. W.F. Admiraal
Co-supervisor: dr. N. Saab

Project title: A case study of university-school collaboration in teachers’ professional development
Duration: 2016-2020
PhD student: X. Zhang
Supervisor: Prof. dr. W.F. Admiraal
Co-supervisor: dr. N. Saab

Project title: Lost in transition? Multiple Interests in Contexts of Education, Leisure and Work
Duration: 2017-2018 (Completion in Utrecht)
PhD student: N. Ziegler
Supervisor: Prof. dr. S.F. Akkerman
Co-supervisor: Dr. L.H. Bronkhorst
Appendix 9. CVs of Scientific Staff (employed at 31 December 2017)

Wilfried Admiraal (staff member since February 2012) is a Full Professor Educational Sciences and director of ICLON Leiden University Graduate School of Teaching. He graduated in Social Psychology and in 1994 he defended his PhD-thesis on teachers’ coping strategies with stressful classroom events. He is chair of the research program Student engagement and achievement in open online higher education of the Centre for Education and Learning of the strategic alliance of the universities of Delft, Leiden and Rotterdam. He is and has been involved in various national (SURF, NRO, NWO) and international educational projects (EU Framework programs, Life Long Learning programs and Erasmus+ programs) on the use of technology in secondary education, teacher education and higher education. He currently supervises more than 25 PhDs. His line of research is to provide insights in how to support active learning in secondary and higher education. More specifically, it examines 1) how learning environments (tasks, materials, tools) should be set up in order to be effective and efficient and 2) how teaching should be organized in order to stimulate learners to interact with learning content. More information on projects and publications: https://sites.google.com/site/wilfriedadmiraal/.

2 key publications (in the period 2015-2017)


Sanne Akkerman is a Full Professor in Educational Sciences at ICLON. She completed her Masters in Educational Sciences (2001, Radboud University Nijmegen) and received her PhD in this field (2006, judicium cum laude) for her thesis focusing on academic collaboration across organizational boundaries. Her research focuses on learning, collaboration and identity processes when crossing organizational, disciplinary and cultural boundaries, both for students and professionals. She currently focuses on students’ interest-based learning across school and out-of school settings, with a review on this topic that won the EARLI 2017 Best Publication Award and a Starting Grant [2016, European Research Council] entitled Lost in Transition? Multiple Interests in Contexts of School, Leisure and Work. She supervises 7 PhD students and one postdoctoral researcher within these lines of research.

2 key publications (in the period 2015-2017)


Amanda Berry (staff member from 2012 to 2015, from Monash University, Australia) is an Associate Professor in the ICLON Graduate School of Teaching Leiden University. As a teacher educator researcher, Amanda’s work focuses on the development of teachers’ knowledge and the ways in which that knowledge is shaped and articulated through teacher preparation, beginning teaching and inservice learning. Amanda’s work responds to two important educational issues: (i) the need for
teacher education programmes to prepare high quality teachers whose work makes a difference to student learning, and (ii) the declining interest, engagement and participation of students in science learning despite the urgent need for a scientifically literate population and workforce. Amanda is editor of two international journals, Studying Teacher Education and Research in Science Education, and has supervised many Masters and PhD students in the areas of (science) teacher and teacher educator learning.

2 key publications (in the period 2015-2017)


Larike Bronkhorst is an Assistant Professor at ICLON Leiden University Graduate School of Teaching in 2017 and 2018. She completed the research master Educational Sciences in 2006 (cum laude). She successfully defended her PhD thesis Research-based teacher education: interactions between teaching and learning at Utrecht University in 2013. Working as a post-doc, educational consultant and assistant professor, she has explored learning and development across contexts in various settings, most prominently teacher education. A related review of the literature on connections between students in and out of school learning won the EARLI outstanding publication award in 2017. She is currently working on a similar review, pertaining to the role of objects in researcher-practitioner collaborations funded by NRO.

2 key publications (in the period 2015-2017)


Michiel Dam is an Assistant Professor at ICLON Leiden University Graduate School of Teaching. He received his PhD at the University of Leiden on the basis of his thesis entitled: Making educational reforms practical for teachers (2014). Since 2013, he has worked as (biology and science) teacher educator and researcher, first at the University of Amsterdam (until 2017) and then at ICLON (the Leiden University Graduate School of Teaching). Currently, he works in research alongside Fred Janssen to study ways in which innovations can be made practical. Other research interests are domain specific features of science topics and how these influence effective learning and teaching (e.g., what makes teaching and learning ecology different from evolution?) and ways in which teachers can use specific student data to direct their own professional development. He supervises 2 PhD students and 1 postdoc.

2 key publications (in the period 2015-2017)

Jan van Driel is a Full Professor of Science Education at ICLON Leiden University Graduate School of Teaching. From 2010 to 2016 he was also director of ICLON. He did his PhD in chemical education (Graduation 1990, Utrecht University) and then worked for 5 years at Delft University of Technology as educational consultant and teacher educator. In 1995, he became assistant professor at ICLON Leiden University Graduate School of Teaching. His research has since then focused on teacher knowledge and teacher learning. Among other work, he did studies on the development of pedagogical content knowledge (PCK) of pre-service science teachers and on the knowledge and beliefs of science teachers in the context of curriculum reform. He supervised many PhD students; a dozen of them successfully completed and defended their theses. He was chair of the board of ICO (2012-2014), secretary and vice-chair of VOR (2001-2009), and current chair of the interuniversity association of teacher education (ICL). He was a member of the board of NARST (2009-2012). He was a member of the editorial board of several journals; since 2009 he is associate editor of the International Journal of Science Education.

2 key publications (in the period 2015-2016)


Fred Janssen is a Full Professor of Science Education. He completed his Masters in Biology in 1992 (cum laude). In 1999 he received his PhD at the University of Utrecht on the basis of his thesis entitled: Learning Biology by Designing: Exemplified and Tested for Immunology. Since 1999 on he has worked as (biology) teacher educator and researcher at ICLON (the Leiden University Graduate School of Teaching). He is program director of the ICLON research program. He currently supervises 17 PhDs and 4 Postdocs. His main interest is building an ecological perspective on teaching repertoire development. In this ecological account teaching practices in classrooms can be seen as the result of two filtering processes. The first filter is the classroom setting that creates demands that delimit the number of theoretically possible actions to a feasible opportunity set. The second filter consists of teachers’ goal systems (goal-means hierarchies) and select what is actually realized. Implemented (inter-)actions in turn influence classroom setting, goal systems and opportunities. Ambitious educational reforms can be supported by perspectives that open up and articulate feasible opportunity sets. They can be used as tools to activate and to build on existing resources and goals, stepwise bridging the gap between the current and desired situation.

2 key publications (in the period 2015-2017)

**Nivja de Jong** is an Associate Professor in Second Language Acquisition and Pedagogy at the University of Leiden, The Netherlands. In 2002, she received her PhD at the Max Planck Institute for Linguistics and Radboud University Nijmegen on the topic of lexical access within psycholinguistics. Since then, through a postdoc on psycholinguistic mechanisms of speaking (University of Edinburgh) and a postdoc on facets of second language (L2) speaking (University of Amsterdam), her research has been on second language (L2) speaking, L2 learning, and language testing. At Utrecht University, as Assistant Professor, she obtained a research grant and was PI on a project on L2 fluency. Currently, she supervises 4 PhD students on diverse topics in the field of L2 learning and on child language acquisition. She holds a dual position at ICLON and at the Faculty of Humanities (within the Faculty affiliated to LUCL and LIAS). She is chair of the Language Learning Resource Centre at Leiden University and member of the national Meesterschapsteam Moderne Vreemde Talen.

2 key publications (in the period 2015-2017)


**Tessa Mearns** is an Assistant Professor at ICLON Leiden University Graduate School of Teaching. She has a BA in Modern European Languages from the University of Durham and an MA in Applied Linguistics & TESOL from Newcastle University. She completed her PhD entitled Chicken, egg or a bit of both? Motivation in bilingual education (TTO) in the Netherlands at the University of Aberdeen in 2015, while teaching at a bilingual secondary school in Eindhoven. She joined ICLON in 2016 and now coordinates and teaches on the specialised World Teachers Programme track of the teacher education programme for international and bilingual education contexts. Her main research interests are bilingual education, Content and Language Integrated Learning (CLIL), and language motivation. She is a member of the Meesterschapsteam Vakdidactiek Moderne Vreemde Talen, which is a university group concerned with strengthening Modern Languages education by bridging the gap between practice and research (https://modernevreemdetalen.vakdidactiekgw.nl/).

2 key publications (in the period 2015-2017)

Mearns T. & Graaff R. de (2017), Bucking the trend? Motivational differences between boys and girls who opt in or out of bilingual education. *Journal of Immersion and Content-Based Language Education* 6(1): 1-26.

Jacobiene Meirink is an Assistant Professor at ICLON Leiden University Graduate School of Teaching. She studied Education and Child Studies at Leiden University, and specialized in Educational Studies and Learning Problems and Impairments. In 2007 she received her PhD on the research project “Individual teacher learning in a context of collaboration in teams”. Currently, she works as a researcher and teacher educator and supervises three PhD students. Her research interest concerns teacher learning (in collaborative work groups) and teacher leadership.

2 key publications (in the period 2015-2017)


Roeland van der Rijst is an Assistant Professor at the ICLON Leiden University Graduate School of Teaching and fellow of the Leiden Teacher’s Academy. After working as a secondary science teacher at schools in South Africa and the Netherlands, Roeland started his career in higher education. In 2009 he received his Ph.D. for his work on ‘The research-teaching nexus in the sciences’ at Leiden University. Currently his research interests are ‘research based teaching and learning’ and ‘teacher professional development’. Many of his research projects are connected to the field of teaching and learning in higher education. Additionally he is secretary of the Netherlands Educational Research Association (VOR), coordinator of the ICO theme group ‘Higher Education’, associate editor of the *International Journal of Academic Development and Research into Higher Education Abstracts*, and editorial board member of *Pedagogische Studiën*, and *Teaching in Higher Education*. Currently, he supervises four PhD students.

2 key publications (in the period 2015-2017)

Nadira Saab (staff member since August 2014, from Institute of Education and Child Studies, Leiden University) is an Associate Professor at the ICLON Leiden University Graduate School of Teaching. She graduated in Developmental and Educational Psychology and received her Ph.D. from the University of Amsterdam in 2005. Her PhD thesis was focused on collaboration in experiential learning environments. She works at the ICLON as a teacher educator and a researcher. Her research focuses on the impact of powerful and innovative learning methods on learning processes, such as collaborative learning, computer assisted learning and assessment and motivation. She studies these questions in children, adolescents and young adults. At the moment she supervises 8 PhD students.

2 key publications (in the period 2015-2017)


Dineke Tigelaar is an Assistant Professor at the ICLON Leiden University Graduate School of Teaching. She graduated in Educational Sciences and in 2005 she defended her PhD-thesis in Maastricht University on the design and evaluation of a teaching portfolio. She has been involved in various projects on professional learning and assessment of teachers and curriculum development. Her major research interests pertain to professional learning and assessment in various contexts and domains of expertise. Currently, she supervises four PhD students.

2 key publications (in the period 2015-2017)


Below the list of articles, books, book chapters, PhD theses, and professional publications for the period 2015 to 2017. The names of ICLON researchers are printed in bold. The list only includes publications with which at least one person who was employed as an ICLON researcher at the time was involved.

2015

Refereed articles


**Book chapters**


Professional publications

Barneveld E. van, Boer W., Giessen C. van de, Kop P.M.G.M & Ree H. van der (2015), Modules wis A havo domein statistiek, Lesmateriaal ontwikkeld in het kader van de nieuwe examenprogramma’s


2016

Refereed articles


Jong N.H. de (2016), Predicting pauses in L1 and L2 speech: the effects of utterance boundaries and word frequency, IRAL 54(2): 113-132.


Veldman I., Admiraal W.F., Tartwijk J. van, Mainhard T. & Wubbels Th. (2016), Veteran teachers’ job satisfaction as a function of personal demands and resources in the relationships with their students, Teachers and Teaching: Theory and Practice, 22(8), 913-926.


**Book chapters**


PhD theses


Professional publications

2017

Refereed articles


Rajala, A. & **Akkerman, S.F.** (2017, online first). Researching reinterpretations of educational activity in dialogic interactions during a fieldtrip. Learning, **Culture and Social Interaction**.


Wansink, B., **Akkerman, S.F.**, & Wubbels, T. (2017). ‘If you had told me before that these students were Russians, I would not have believed it’: an international project about the (New)Cold War’, **Teaching History**, 166, 30-34.


**Zee T. van der**, Anaya J. & Brown N.J.L. (2017), Statistical heartburn: an attempt to digest four pizza publications from the Cornell Food and Brand Lab, BMC Nutrition 3(54).

**Book chapters**


**PhD theses**


**Professional publications**


Appendix 11. Application for ethical approval

ICLON RESEARCH ETHICS COMMITTEE

APPLICATION FOR
ETHICAL APPROVAL OF AN EDUCATIONAL RESEARCH PROJECT

INFORMATION FOR APPLICANTS

- This form can be used for individual research projects or a series of related research projects. Researchers are encouraged to submit a single ethics proposal if multiple research projects are proposed that have related content and/or make use of the same procedures and populations.
- This form is not meant for research by masters students or student teachers.
- This form should be submitted by the primary investigator (who will carry out the research). It should be signed by the primary investigator and, if applicable, the supervisor, and all co-investigators.
- Ethical approval of a research project or series of related projects is valid for:
  - 5 years, counted from the approval date; or,
  - until the information submitted in this application form changes.
- IREC must be informed of interim changes of the research project/s that may affect the ethical status, using a Request for Amendment form.
- Part of this Application is the requirement to fill in a Data Management Plan (Annex I). Within three months after the start of the project the Data Management Plan must be send to IREC.
- The primary investigator is responsible for using a process logbook for being able to keep an audit trail. A final report must be send to IREC, including the completed audit trail, containing a process document which relates the raw and process data to the publications in such a way that this link is visible, understandable, and assessable.
- The complete audit trail is digitally stored for 10 years after the end of a project.
- Submit an electronic version of this form to IREC (irec@iclon.leidenuniv.nl) containing all documents i.e., explanatory statement, consent form, survey instrument/s, permission statement/s, data management procedure, etc. Please submit all documents as ONE Word document.
Important – Using the form

- It is best to view this form in TEXT WIDTH or PAGE WIDTH.

- This form is set up as a series of tables and check boxes. The table will enlarge to the size you require when you type and by pressing the Enter key.

- Double click on the left mouse button and a “check box form fields” box will appear. Choose CHECKED and OK.

- If you want to uncheck it, double click on the left mouse button and a check box form fields box will appear. Choose NOT CHECKED and then click on OK.

DEFINITIONS AND ABBREVIATIONS

IREC  ICLON Research Ethics Committee

Project  The individual educational research project or series of related research projects that pertain to this application form

VOR  Vereniging voor Onderwijsresearch

VSNU  Vereniging van Samenwerkende Nederlandse Universiteiten

Section 1 – Project details ............................................................... 59

Section 2 – Details about the participants of the proposed research project ................. 60

Section 3 – Procedures for explanation and gaining informed consent ....................... 62

Section 4A – Data management Procedure - Collection of data materials and procedures .. 63

Section 4B – Data Management Section .................................................................. 64

Section 5 – Collection of data: risks and procedures ............................................... 65

Section 6 – Feedback and debriefing procedures ..................................................... 65

Section 7 – Other ethical issues ........................................................................ 66

DECLARATIONS AND SIGNATURES ...................................................... 66
Application for Ethical Approval of an Educational Research Project

Section 1 – Project details

1.1 Title of project

1.2 Researchers involved in the conduct of the project

Primary investigator involved in carrying out the research

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
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<tbody>
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</table>

Department:

Phone

Email

Employment primary investigator

Please choose one x in box

- Staff research (UD, UHD, Professor)
- PhD candidate
- Post doc
- Student research
- Other, please specify:

Please copy, paste and complete table for additional researchers involved in the project, if applicable.

Please choose one

- Supervisor (e.g., Professor, Dr.)
- Associate Supervisor (e.g., Professor, Dr.)
- Other, please specify

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
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</tbody>
</table>

Affiliated Institutions (if not affiliated with Leiden University):

Department:

Address

Phone

Email

1.3 Are there partner organisations involved? These may be research partners that use your data, or that you use data from.

Names of people and their responsibilities (Responsibilities can be collecting, storing, documenting, sharing and archiving the data.)
Naming anyone with specific roles and responsibilities for data management is especially important for collaborative projects that involve many researchers and/or partner organisations.

<table>
<thead>
<tr>
<th>Name</th>
<th>Responsibilities</th>
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</table>

*If the contact details change, please advise the IREC as soon as possible.*

1.4 Proposed start and end dates of the project

1.5 Project description

In plain language, give a short description of the background and potential significance of the research project

250 words max

1.6 Clearly state the Research Questions/ aims and/or hypotheses of the research project

250 words max

1.7a By whom is your research project funded? e.g. NWO, Surf, Leiden University

1.7b If you have a grant Number, please indicate this here. A grant number provides unique identification for the grant

1.7c Is there any possible conflict of interest for any of the researchers? E.g. because of financial, organizational or other involvement in the research (apart from their research role).

*Place x in box*

- [ ] NO
- [ ] If YES, please describe in further detail, including any possible conflicts of interest.

1.8 Submission of this project to other Research Ethics Committees

Has this project been submitted or will it be submitted to other Research Ethics Committees?

*Place x in box*

- [ ] NO
- [ ] If YES, please provide name of IREC and if approval has been granted

Section 2 – Details about the participants of the proposed research project

2.1 Please describe the participants (in groups) involved in your research project
If you need more rows please click on a row, go to TABLE on the menu bar and then to INSERT on the drop down menu. Click on ROWS BELOW.

2.2 In your research design, what are your criteria for inclusion for each participant group? (e.g., age, prior experience, qualifications, etc.)

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
</table>

2.3 Describe how much time you are asking of participants in each group and when the time will be required. (e.g. within normal working hours, outside of working hours)

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
</table>

2.4 Will you be offering reimbursement or any other incentives to participants? 

Place x in box

- [ ] NO

- [ ] If YES, how much and in what form will the reimbursement or incentive take?

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
</table>

2.5 Recruitment

2.5a Please explain how you will recruit your participants and invite them to participate?

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
</table>
2.5b  Please explain in detail how you will obtain the contact details of participants.

<table>
<thead>
<tr>
<th>Group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td></td>
</tr>
<tr>
<td>Group 2</td>
<td></td>
</tr>
<tr>
<td>Group 3</td>
<td></td>
</tr>
<tr>
<td>Group 4</td>
<td></td>
</tr>
</tbody>
</table>

2.6  Does your project involve other organisations (e.g., a school)?

Place x in box

☐ NO

☐ If YES, the primary investigator is responsible for ensuring that permission letters are obtained and a copy forwarded to IREC before any data collection can occur at the specified organisation.

<table>
<thead>
<tr>
<th>Name of Organisation</th>
<th>Name of person granting permission</th>
<th>Their role in the organisation</th>
<th>Is permission granted? Place x in appropriate box</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.7  Are there any possible ethical issues involved in the recruitment of the participants? (e.g., a power relationship between a school principal and teachers)

Place x in box

☐ NO

☐ If YES, describe the nature of the relationship, and explain what special precautions will preserve the rights of such people to decline to participate or to withdraw from participation once the research has begun.

Section 3 – Procedures for explanation and gaining informed consent

Procedures for providing explanation to participants

3a.1  Will you use a written Explanatory Statement to inform each participant about the research project?

Place x in box

☐ If NO, describe how and by whom the explanation will be given to participants.

☐ If YES, please attach a copy of the Explanatory Statement at the end of this document
### 3a.2 Will all participants, including organisations, be fully informed about the true nature of the research?

<table>
<thead>
<tr>
<th></th>
<th>Will all participants, including organisations, be fully informed about the true nature of the research?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>NO, please describe the procedure and explain why the real purpose needs to be concealed</td>
</tr>
<tr>
<td>☐</td>
<td>YES</td>
</tr>
</tbody>
</table>

### Procedures for gaining informed consent

#### 3a.3 Please explain how you will obtain informed consent from your participants.

<table>
<thead>
<tr>
<th></th>
<th>Please explain how you will obtain informed consent from your participants.</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>Implied consent – the return of an anonymous survey implies consent</td>
</tr>
<tr>
<td>☐</td>
<td>Consent form (please attach a copy of the consent form to this application)</td>
</tr>
<tr>
<td>☐</td>
<td>Other, please specify</td>
</tr>
</tbody>
</table>

### 3a.4 If the participants in your study are unable to consent for themselves, explain how you intend to obtain informed consent. How will adequate information be provided to those who will give consent on their behalf? (For example, parents will be informed via a newsletter from the school about the research and its activities.)

---

### Section 4A – Data management Procedure - Collection of data materials and procedures

#### 4.1 How are data to be collected? Briefly outline all research procedures to be used with each category of participants.

<table>
<thead>
<tr>
<th></th>
<th>How will the data be collected?</th>
<th>Please complete as specified:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Questionnaire(s) or survey(s)</td>
<td>☐ Fully identifiable (name on it)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Potentially identifiable (coded)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Anonymous (never can be identified)</td>
</tr>
<tr>
<td></td>
<td>Interviews</td>
<td>☐ Audio taped</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Video taped</td>
</tr>
<tr>
<td></td>
<td>Focus groups</td>
<td>☐ Audio taped</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Video taped</td>
</tr>
<tr>
<td></td>
<td>Observations</td>
<td>☐ With the knowledge of participants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Without the knowledge of participants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Audio taped</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Video taped</td>
</tr>
</tbody>
</table>
4.2 Where will the data be collected? If not known, please provide suggested locations.

.........

4.3 By whom will the data be collected?

.....

4.4 Please explain briefly for each data source how the data will be processed and which information will be added to the audit trail in the DMP on the analyses of the raw data that lead to the processed data. (For example, for questionnaire(s) or surveys, syntaxes and a coding key may be added, and for interviews, a code book may be added).

..........  

Section 4B – Data Management Section15

4.5 Will data be collected or generated that are suitable for reuse?

☐ Yes: Then answer questions 2 to 4

☐ No: Then explain why the research will not result in reusable data or in data that cannot be stored or data that for other reasons are not relevant for reuse

...........

4.6 Where will the data be stored during the research? And who will have access to the stored data?

...........

4.7 After the project has been completed, how will the data be stored for the long-term and made available for the use by third parties? To whom will the data be accessible?

.....

15 http://www.nwo.nl/en/policies/open+science/data+management+chapter
### 4.8
Which facilities (ICT, (secure) archive, refrigerators or legal expertise) do you expect will be needed for the storage of data during the research and after the research? Are these available?

---

### Section 5 – Collection of data: risks and procedures

#### 5.1
Are there any risks beyond the normal experience of everyday life, in either the short or long term, from participation in the project?

- [ ] NO
- [ ] If YES, please explain how you will manage this situation.

---

#### 5.2
Have all of these risks been outlined the participants? If NO, why not?

---

#### 5.3
Are there any risks for the researchers? Please outline the strategies you have in place to reduce this risk.

---

#### 5.4
Some researchers are required by law to report certain findings – Is any person involved with the research project required by law to report? Please explain.

*This information must be included in the Explanatory Statement.*

---

### Section 6 – Feedback and debriefing procedures

#### 6.1a
In what form will you publish this research?

- Thesis
- Journal article / book / chapter
- Conference presentation
- Report to organisation
- On-line web based
- Oral presentation
- Other, please specify

#### 6.1b
How will participants be provided with the results?

- Participants will be provided with the researchers’ contact details to request the results
Section 7 – Other ethical issues

7. Are there any other ethical issues raised by the proposed project? How will you manage them?

......

DECLARATIONS AND SIGNATURES

I / We, the undersigned, declare the following:

- I / We have described the research detailed above truthfully, with special attention to aspects of ethical conduct in research.

- I / We accept responsibility for the conduct of the research detailed above in accordance with the principles outlined in:
  - The Netherlands Code of Conduct for Scientific Practice (VSNU, 2012);
  - The Gedragscode voor onderwijsonderzoekers (VOR, 1990/2009)
and I / we have read and understood the documents above.

- I / We undertake to conduct this research project in accordance with the protocols and procedures as approved by the Scientific Director of ICLON.

- I / We undertake to conduct this research in accordance with relevant laws and regulations.

- If any changes to the research are proposed that may affect the ethical status of the research project after the approval of the Committee has been obtained, then IREC will be informed using a Request for Amendment form.

- I / We will provide a Final report of the project to IREC, including the complete audit trail, with the approved application form, research proposal, process logbook, and process document which relates the raw and process data to the publications in such a way that this link is visible, understandable, and assessable.

<table>
<thead>
<tr>
<th>Signature of primary Investigator</th>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

In addition to the above
- In the case of PhD student research, I will be the supervisor responsible for the research project
In addition to the above
   – I also take responsibility for the ethical conduct of the research project

<table>
<thead>
<tr>
<th>Signature of Supervisor</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Date</td>
</tr>
<tr>
<td>Signature</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signature/s of associate Supervisor</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Date</td>
</tr>
<tr>
<td>Signature</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Signature/s of other</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Date</td>
</tr>
<tr>
<td>Signature</td>
<td></td>
</tr>
</tbody>
</table>

Please copy, paste and complete table for additional researchers, if applicable.

Annex I Datamanagement Plan (not included)
Appendix 12. Other relevant documents

- Self-assessment 2009-2014
- Assessment Report 2009-2014
- SEP protocol 2015-2021