Report on the research review of Pedagogical Sciences and Educational Sciences

2012 - 2017

Maastricht University

University of Amsterdam

Leiden University

University of Groningen

Utrecht University, Faculty of Social and Behavioral Sciences

Utrecht University, Faculty of Science

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Preface

The University of Amsterdam, the University of Groningen, Leiden University, Maastricht University, the Open University of the Netherlands, and Utrecht University as well as the National Research School: Interuniversity Centre for Educational Sciences (ICO) agreed to be assessed concerning their research in pedagogical sciences and educational sciences. This report presents the results of this assessment.

The report follows the Standard Evaluation Protocol (SEP) 2015 - 2021, published under the authority of the Association of Universities in the Netherlands (VSNU), the Netherlands Organisation for Scientific Research (NWO), and the Royal Netherlands Academy of Arts and Sciences (KNAW). The review committee was composed of scholars from various countries and with different academic backgrounds. The work of the committee was supported by De Onderzoekerij.

As chairman of the committee I like to thank the management, staff and PhD students of the institutes for their presentations and the open and honest discussions. Furthermore, I like to thank the members of the committee for their hard but always trustful work, and the University of Utrecht for hosting the committee, including carefully selected accommodation and great dinner locations. Finally, I like to thank Esther Poort and Meg van Bogaert. Esther Poort coordinated the review; Meg van Bogaert collected the preliminary assessments, served as the secretary of the committee during the site visit in Utrecht, and prepared the report. She did truly great work.

Detlev Leutner

Chair of the Committee

1. The review committee and the review procedures

1.1 Introduction and scope of the review

In accordance with the Standard Evaluation Protocol (SEP) 2015-2021 (Appendix 1) the research in Educational Sciences and Pedagogical Sciences covering the period of 2012-2017, is being reviewed by an external peer review committee. This research review is part of the six-year cycle of evaluation of research in all Dutch universities. Of the fourteen Dutch Universities seven conduct research in Pedagogical Sciences and thirteen in Educational Sciences. Although not all universities decided to participate in this national review, the review committee was given a broad overview of the research in Pedagogical Sciences and Educational Sciences in the Netherlands. The following research institutes participated:

- · Research Institute of Child Development & Education, University of Amsterdam;
- Nieuwenhuis Institute for Educational Research, University of Groningen;
- · Institute of Education and Child Studies, Leiden University;
- Department of Education & Pedagogy Utrecht University, Faculty of Social and Behavioral Sciences;
- · Freudenthal Institute, Utrecht University, Faculty of Sciences;
- Welten Institute, Open University of the Netherlands;
- School of Health Professions Education, Maastricht University.

In addition, the National Research School: Interuniversity Centre for Educational Sciences (ICO) is being reviewed.

In accordance with the SEP the review committee's tasks were to assess the quality of the research conducted by the institutes and their relevance to society as well as their strategic targets and the extent to which they are equipped to achieve them. In addition, the review committee provides qualitative feedback on the PhD programmes, research integrity and diversity aspects of the institutes. The review committee was furthermore invited to write a review on the performance of Dutch Pedagogical Sciences and Educational Sciences from an international perspective and considering international trends. This review is provided in Chapter 2 of this report.

The panel received detailed information consisting of the self-evaluation reports of the institutes under review, including all the information required by SEP (including appendices), key publications for each research institute and general information on Pedagogical Sciences and Educational Sciences in the Netherlands.

1.2 Composition of the review committee

The review committee for the research review in Educational Sciences and Pedagogical Sciences was composed of the following members:

- Professor Detlev Leutner (chair), professor for Instructional Psychology, Faculty of Educational Sciences, University of Duisenburg-Essen, Germany;
- Professor Ian Grosvenor, professor of Urban Educational History and Head of Education and Social Justice at the University of Birmingham, United Kingdom;
- · Professor Hans Gruber, professor in Educational Science at the University of Regensburg, Germany;
- Professor Sanna Järvelä, professor in Learning Sciences and Educational Technology, University of Oulu, Finland;
- Professor Elizabeth Meins, professor in Developmental Psychology, University of York, UK.
- · Professor Catherine Snow, professor of Education, Harvard Graduate School of Education, U.S.A;

· Professor Lieven Verschaffel, professor in Educational Psychology at the KU Leuven, Belgium;

 Professor Karine Verschueren, professor and head of the research unit School Psychology and Development in Context at KU Leuven, Belgium;

The committee was supported by dr. Meg van Bogaert who acted as secretary and dr. Esther Poort who coordinated the research review.

1.3 Independence and confidentiality

All members of the review committee signed a statement of independence to safeguard that the committee members could judge without bias, personal preference or personal interest, and that the judgement is made without undue influence from any of the institutes or stakeholders. With his institute being part of ICO, professor Verschaffel did not take part in the review of the national research school. He refrained from comments in the preparation and final report and was not present during the interviews with stakeholders. Any other existing professional relationships between committee members and institutes under review were reported and discussed at the initial meeting. The review committee concluded that there was no risk of bias or undue influence.

1.4 Procedures followed by the review committee

The review committee was invited by the six participating universities to assess the participating institutes and the national research school during a site visit at a central location in the Netherlands (Utrecht). Prior to the site visit, all committee members were requested to read the self-evaluation reports of all seven research institutes as well as that of ICO. Each committee member was furthermore requested to independently formulate a preliminary assessment concerning two research institutes under review, based on the written information that was provided. This way all research institutes were reviewed in-depth by a first and a second reviewer. Nevertheless, all committee members are jointly responsible for the review, scoring and report of all the institutes and ICO.

This report is based on the documentation provided by the research institutes, but it also includes the information gathered during the interviews with management, staff and PhD students of the institutes. The site visit took place from 13 to 17 January 2019 in Utrecht; the programme of the site visit is provided in Appendix 2. Preceding the interviews, the review committee was briefed by the secretary about research reviews according to SEP and was provided with information regarding specifics on Dutch research (e.g., funding, organisation and the position of PhD candidates). In this meeting the review committee also discussed its preliminary findings, decided upon a number of comments and questions, and agreed upon procedural matters and aspects of the review.

After the interviews the review committee discussed its findings, comments and preliminary scores. In the final session, the review committee discussed all preliminary scores and finalised them. Based on the preliminary assessments and notes taken during the interviews, the committee members wrote an assessment of the institute for which they had been appointed as first reviewer. The second reviewer verified and added to this assessment after which the secretary used it for the report. The chair and an additional committee member were requested to write the review on the Dutch Educational Sciences and Pedagogical Sciences. The total draft report was verified and added to by the review committee before being presented to the institutes concerned for factual corrections and comments. The comments were reviewed by the secretary and incorporated in the final report in close consultation with the chair and other committee members. The final report was presented to the Board of the Universities and to the management of the institutes.

This report describes the findings, conclusions and recommendations of this external, peer review of the seven institutes. The review committee aimed to review each institute based on its own objectives and aims and in relation to programmes and institutes worldwide. Although seven Dutch institutes were included in the review, the review committee tried to refrain from a ranking of the seven institutes.

1.5 Application of the SEP scores

The review committee used the criteria and categories of the SEP and would like to make a number of remarks with respect to using of the SEP scores that should be taken into careful consideration when comparing the outcomes of this review with any other research review according to the SEP. The review committee is of the opinion that the scores in this report cannot be compared to the scores in the previous report(s). Furthermore, the review committee agreed that for a score 1 (excellent) the review committee had to be unanimous that the major part of the work in the institute deserved the judgement One of the few leading institutes worldwide. As to the other categories, because SEP prescribes only use of whole numbers and no intermediate categories (such as 1.5 or 2.5), it follows that the present category very good covers a broad range. In line with this remark the review committee decided to use the score 2 (very good) for research quality, relevance to society and viability rather broadly, meaning that the range of this score encompasses the range from just above 'good' to 'almost excellent'. It should therefore also be interpreted in close connection with the qualitative comments in the text. Finally, according to the current SEP, the units of review are the institutes. Within each research institute often a number of research groups or research lines are combined, each with its own quality, relevance and viability. The review committee combined all results into its findings and scores, including the interaction within the institutes.

2. Dutch Educational Sciences and Pedagogical Sciences

2.1 Strengths

First, it is important to note that the existence of a regular, rigorous, and impartial review procedure for academic institutes in the Netherlands is a laudable strength of the system. The process is one that requires considerable investment of time and energy from the institutions that participate in the review, and that has financial costs as well. The review committee was deeply impressed by the care that had been taken in preparing institute reports, and the candour with which participants in the process answered questions and responded to the committee's concerns.

The overall picture the review committee formed was one of considerable strength and resilience in these institutes and departments whose work is organised around issues of human development and education. The institutes, considered as a single research community, covered a remarkable breadth of topics and approaches, but all were committed to identifying and addressing the prescribed research priorities, and all showed evidence that they were effectively promoting the learning and the development of predoctoral scholars. ICO is just one of the mechanisms that ensures a strong network of connections among researchers at Dutch universities as well as with those working in universities outside the Netherlands. Structures are in place to facilitate collaboration among researchers at different universities, as well as with university scholars and other educational, municipal, and non-profit agencies, generating rich collaborative networks. Furthermore, all of the institutes reviewed rejected strict disciplinary boundaries in their research and teaching, and several made interdisciplinary work an explicit goal. Furthermore, representatives of all the institutes avowed a commitment to promoting quality over quantity in scholarly production.

Committee members were particularly impressed by the doctoral candidates interviewed. We noted that they were universally enthusiastic, ambitious, confident, and committed to producing high quality and relevant research. They reported feeling well supported, and like members of a community - even the external and part-time candidates. Their high level of satisfaction clearly reflected the quality and intensity of supervision to which they had access. Though the specific arrangements for supervision varied somewhat across the institutes, as did the number of PhD candidates supervised by individual staff members, all the local arrangements were reported to be fully satisfactory. The combination of courses and support from ICO and local graduate schools was much appreciated by students experiencing both.

In addition, the infrastructure of most institutes is very good, and university administrators clearly understood the importance of supporting infrastructure. The infrastructure includes laboratories, but also access to methodological support and to contacts with important community partners and sources of funding. An additional aspect of infrastructure of particular importance to the doctoral candidates was training in research ethics, either through ICO or through a local research training course.

A striking and admirable feature of all the institutes reviewed was their attention to the practical implications of their work (the so-called valorisation dimension), while at the same time they were generally achieving success in meeting or exceeding targets for quality and quantity of scholarly output. The review committee was offered clear evidence of concern among those interviewed that the research being carried out could influence both policy and practice. The presence in many of the groups of part-time PhD students, who were engaged in practice settings while conducting research, creates an additional source of attention to developmental and educational questions drawn from actual practice, and informs the nature of the research designed and carried out.

Many of the academics working in the institutes reviewed have solid international reputations as leaders in their fields. They are active in external committees and agencies, both in the Netherlands and internationally, in ways that both confirm and expand their reputations.

The academic standing and research excellence of the faculty members at the various institutes was enhanced by their exploitation of opportunities to work abroad, to host students and visiting scholars from abroad, and thus to establish productive collaborations with European and Anglo-American scholars working

in slightly different traditions. The review committee also noted consistent attention to offering such opportunities for research visits to labs in other countries to junior scholars, PhD candidates, postdoctoral fellows, and not-yet tenured faculty members. In addition, some of the institutes were strategic about attracting and supporting international PhD candidates, some in residence and others being supported at a distance. These international connections have great potential for broadening the knowledge base of all involved.

Another general strength of the institutes reviewed was their lack of dependence on single sources of funding. Typically, the research activities were supported by national grants, European funding, as well as contract work in some cases. The government schemes of payment to institutes for completed PhDs both provide substantial financial support to some groups and incentivise support to PhD candidates to ensure their timely completion of their dissertations.

In short, the strengths of this collection of institutes were many, most importantly across the entire group of institutes the convergent and complementary research agendas that range from early childhood through professional education and that incorporate attention to many different learning environments and contexts. All the institutes had mechanisms in place for ensuring high-quality research that has the potential to deliver guidance designed to improve practice.

2.2 Areas of concern for the future

The quality of research in institutions of higher education everywhere in the world is threatened by the volatility of the research funding base. The standing and status of social and educational sciences forms an additional barrier to securing external funding. These challenges are clearly present for the institutes reviewed in this report and run the risk of undermining their efforts to support junior scholars and to find internal funding that can be invested in ways that raise the likelihood of external funding.

The problem is exacerbated by the decline in numbers of students taking courses and enrolling in bachelor's and master's programmes provided by the institutes reviewed. Since funding to the departments depends to some extent on student numbers, the general shift of student interest to areas other than human development and education is a current and looming threat.

One consequence of the financial insecurity associated with uncertainty around student numbers is the growth in the use of temporary contracts for junior faculty members, and the unwillingness of university administrators to risk extending contracts of even very promising scholars beyond the limit that would require permanent appointments. Promising junior scholars are thus sometimes forced to consider abandoning academia, with the result that the research agendas on which they have been working might be undermined or disrupted.

Another consequence of the financial challenges and lack of trust in the likelihood of an academic future for those with a PhD is the growth in the number of part-time doctoral students and the pressure on them to complete their degrees efficiently. While the review committee noted above that part-time PhD candidates have the advantage of bringing issues from practice more robustly into the academy, at the same time they can bear an excessive burden.

Financial challenges drive researchers into choosing safe questions and familiar research topics - ones for which securing funding is easier. This can result in a reduced focus on the promotion of interdisciplinary research, which is inherently less predictable and may be seen as riskier. Furthermore, the need for institutional financial security can induce administrators to put pressure on staff to increase their workloads, by prioritizing teaching with its direct institutional financial rewards, with negative consequences for engagement in research and for the health and welfare of the faculty members.

In addition to this complex of issues related to financial uncertainties, there is a range of social changes with accompanying opportunities and challenges that we encourage these (and other) institutions of higher education to anticipate and plan for. One is the wide range of ongoing technological developments and their potential impact on the kind of research that is conducted and valued. There is, for example, the potential for expansion of the use of 'big data' in the social sciences; such a shift will require technical and analytic skills that may not be sufficiently focused on in the current research training. At the same time, an understanding of how such shifts in technology and analysis get reflected in higher education and

in research policy is crucial; the review committee notes a general decline in integration of historically informed research within the social science institutes reviewed.

An associated challenge is the lack of a clearly articulated strategy around public engagement. Ultimately, support for research from public money, either within the Netherlands or in Europe more broadly, will depend on public support for and appreciation of the value of the work social scientists engage in. Despite the relatively low esteem of social/educational science, it holds great potential value as a source of input to social policy and the design of learning supports. That value will be best realised if researchers engage in co-design and co-production of knowledge with the affected communities, and if there is open and effective communication about the value of the researcher's input to the enterprise.

Emphasis on the local value of the research being undertaken should not, however, lead to neglect of international and global challenges to which the work of the institutes reviewed here is relevant. Increasingly, local challenges are connected to global events: for example, migration with its consequences for schooling and for social cohesion is related to ethnic/civil conflicts as well as to climate-change-induced food shortages. Local practices to respond to sudden shifts in demographics of a school district are mere band-aids if not related to the larger phenomena that cause such shifts.

Particularly in light of these global phenomena and their influence on the population in Dutch schools, the review committee was disappointed to encounter very little attention in any of the institutes reviewed to issues of diversity. While the staffing reports referred to diversity, this was typically defined predominantly as gender diversity. Indeed, in the fields of human development and education, it is not difficult to achieve a high percentage of female researchers - typically in other countries the challenge is to prevent these fields from becoming female ghettos. In addition to gender diversity, though, the nature of developmental and educational work demands attention to ethnic and language diversity. As asylum seekers and economic refugees continue to migrate to the Netherlands, understanding their situation and accommodating their children in Dutch schools would be easier if members of their ethnic/religious/language groups were represented among researchers and in universities. Given its long history of labour market immigration and its post-colonial relationships, the Netherlands has the benefit of many citizens of Turkish, North African, and Caribbean descent. The representation of these groups among doctoral students or faculty was not reported on in any of the 'diversity' reports from the institutes reviewed.

While, as noted above, there are procedures in place to ensure that doctoral candidates (and, presumably, employed research staff and faculty members) are made aware of ethical issues related to research (intellectual property rights, plagiarism, authorship rights and responsibilities, human subjects' protections); these issues are becoming ever more complicated and fraught, and international collaborations can introduce additional tensions. Thus, the review committee cautions that the content of research-ethics training courses should be reviewed regularly and expanded and elaborated as needed.

Finally, the institutes would do well in the future to collect systematic data in two areas which were acknowledged as important but for which success was not quantified: the post-doctorate career trajectories of PhD graduates, and the actual use of the many cited contributions to practice. Tracking graduates' career trajectories is a relatively straightforward task, that simply needs to be institutionalised. Tracking the actual utility of the products of research meant to improve practice (e.g., parent guides, curriculum units, reading interventions) requires more methodological innovation, but if the need for tracking is anticipated, it can be accomplished.

2.3 Guidance for future evaluations

The review committee greatly valued the clear structure of the reports submitted, the open and honest conversations that were part of the review process, and the qualitative as well as quantitative evidence provided. The committee also valued the general document that explained the structure and culture of Academia In the Netherlands. The committee noted, though, that the reports were more accessible for committee members who had participated in this process previously, and who thus had some understanding of the historical trajectories of the institutes reviewed. Important information was extracted during the interviews about the culture of each institute. Though the review committee makes no value judgments, it recognised the relevance to understanding the institute reports of dimensions of institutional

culture such as collaboration, researcher autonomy, nurturance, top-down versus bottom-up decision making, and prioritisation of teaching. Those preparing future reports are cautioned that an unbiased international review committee may need considerable orienting background information. This is particularly the case for those institutes that are undergoing major restructuring. Evaluating their status can require more information about their history than may typically be provided.

Assessment of the institutes

9. Welten Institute, Open University of the Netherlands

9.1 Introduction, strategy and targets

The current composition of the Welten Institute (WI) is the result of a complicated merger externally imposed in 2013, between the Centre for Learning Sciences and Technologies (CELSTEC), the Scientific Institute for Teacher Research (LOOK) and the research activities of the Open University Teachers' University (Lerarenuniversiteit) - three units with very different histories, cultures and scopes. In that same year, the WI became part of the new Faculty of Psychology and Educational Sciences. WI's research is now performed by three research groups: 1) Fostering Effective, Efficient and Enjoyable Learning (FEEEL), 2) Technology-Enhanced Learning Innovations for Teaching and Learning (TELI), and 3) Teaching and Teacher Professionalisation (T2), which are reminiscent of the three units involved in the 2013 merge. From 2014 onwards, the WI organised itself under a new common research programme entitled "Learning and teaching in technology-enhanced environments", thereby focusing on "the ecology of education". However, each of the three above-mentioned research groups (continues to) focus on one element of the ecology, respectively the learner (FEEEL), the educator (T2), or technology (TELI).

The general mission of WI is to integrate perspectives in carrying out scientific research of complex, practice-relevant issues in the ecology of education. Its research delivers ecologically valid and high-quality results through an integrated approach to issues that draw upon theories of learning and cognition, technology, new media, networking, and educators' practices and behaviour.

9.2 Research quality

During the past years, the WI management has put a lot of effort in the re-establishment on a good working climate and realising effective forms of exchange and cooperation among the three groups. It has made a lot of progress in this respect, for which it should be applauded. On the other hand, the integration and alignment of the three different groups around a concrete and coherent scientific programme is not accomplished yet. It seems that the WI management has not yet developed a clear and strong view about how the institute could have an ambitious re-start and in what direction the new research programme should go.

Before the merger, the research-oriented units had very good research infrastructure and support. After the merger, however, these facilities and support had to be spread out among many more staff, with a resultant increase in level of demand. Also, the research capacity (FTE) decreased drastically between 2012 and 2017, as a result of restructuring and the loss of transformation funding.

In absolute terms, scientific output in peer-reviewed journal articles and other scientific publications is high. Notwithstanding the serious drop in scientific staff capacity, the reduction of scientific publications has been kept minimal over the review period, and for the subcategory of JRC-articles this level has remained stable. During the site visit the review committee was confronted with a serious obscurity concerning the determination of the research capacity (the number of FTEs devoted to research). According to the self-evaluation report "on average, 80% of scientific staff time is allocated to research (including valorisation)" whereas "the remaining 20% of their time is allocated to education". This was also the basis for the FTEs available for research in the tables. However, when confronted with the comparatively low productivity outcomes of scientific publications, if computed on the basis of those research FTE measures, the WI management commented that this percentage of 80% for research (including valorisation) might be inaccurate.

Still, when using the favourable FTE data provided in the self-evaluation report, the Wi's scientific productivity over the six-year period is - at best - good. Moreover, the contribution of individual scientific staff members to the quality and productivity of the Wi's scientific publication output is very unbalanced.

During the past six years, the WI hosted some researchers with a very strong scientific productivity and impact, some of whom are now retired or have left the institute.

The WI has produced many high-quality publications in high impact journals. Several of these publications have received best publication awards or other signs of recognition. With a total of about 50 PhD theses, the Institute has also delivered a quite large number of PhDs over the past six years. However, when considering the available research FTE at the WI, PhD productivity is modest.

In overall and absolute terms, the WI has been very active and successful in external funding, but, again, compared to total scientific staff capacity this external fund-raising capacity is comparatively not so high. There has been a small increase in percentage of external grants over the years, but the percentage of external vs. direct funds remains relatively low. Most of the recently started projects are Erasmus+ projects, and, to a lesser extent, NRO, H2020, FP7, and NWO, pointing to the OU's strong capacities for national and international networking and collaboration, and for interdisciplinary and applied research funding. At the same time, the WI has not been successful in obtaining prestigious and important grants for (basic) research. The management has developed a grant acquisition strategy and some kinds of support are available for scientific staff who plans to apply for grants, but a more intensified and systematic approach is recommended.

Other signs of academic quality are present but not evenly distributed of the staff. Scholars at the Institute are active on the international scene and well embedded in national and international networks on instructional design and technology. They have received awards and participate in international scientific committees and editorial (advisory) boards of leading journals, programme committees of scientific meetings, etc. However, only a relatively small part of the scientific staff is responsible for the majority of these signs of scientific prominence, and, moreover, many of these signs have been awarded to staff members who meanwhile are no longer part of the Institute's staff.

9.3 Relevance to society

As a direct result of the WI's structural embedding within the OU and of some major features of its longstanding research strategy, that focus on questions that are directly relevant to the improvement of learning and teaching and on cooperation with educational practitioners, societal relevance has always been a very important for the WI.

Examination of the accomplishments and indicators of societal relevance documented and illustrated in the self-evaluation report, as well as the information elicited in the interviews with the various representatives of the WI, leads the committee to evaluate the societal relevance as excellent.

Prominent and convincing highlights are a large number of demand-driven and design-based research projects with schools and other third parties about how to design education and foster learning with the use of technology; direct output in the form of professional publications, participation in professional conferences, books for the general public, and, more recently, MOOCs; several books (co)produced by staff members that are being used in higher education settings; very good media coverage by means of interviews for television, radio, newsletters, etc.

The WI management has developed a very effective strategy for the stimulation, realisation and valorisation of the societal relevance and impact of its research, e.g., by also explicitly including valorisation in the 80% FTE reserved for research by staff (the involvement of practitioners is required in every phase of the research cycle), and by developing an internal system for the documentation and assessment of the societal relevance of staff members' work has been developed. The fact that many master's students and (external) PhD candidates are primarily adults working in various educational settings further contributes to the societal relevance and impact of the WI's research. The WI is also in a unique position for valorising its research in the domain of active on-line learning and teaching for the improvement of the education at the Open University itself. However, the Institute could pay more attention to the impact of its research for the OU's educational strategy in general and for specific courses in particular.

9.4 Viability

In prior international evaluations, the predecessors of the WI have repeatedly been recognized as a very strong European and even world player in the field of instructional design and instructional technology. This prominence in the international research field of learning and teaching involving state-of-the art technology integration is at least partially sustained in the WI today. Another positive aspect is that the WI has been successful in maintaining a high level of scientific research output in JCR journals and other scientific publications and in acquiring external grants (especially for practice and policy-oriented research, both at the national and international level), notwithstanding the serious reduction in research capacity. Furthermore, the WI has continued to do very well in building strong national and international networks and in establishing strong ties with educational practice and in valorising its research in various other ways. Also, the Institute possesses good research infrastructure allowing for sophisticated and interdisciplinary research, and it has developed a successful model for practice-oriented master's and PhD projects carried out by part-time students who continue working, thus maintaining their strong professional and societal roots in teaching and education, and who provide access to specific research target groups and open unique networks that can be very relevant for research.

There are, however, also several serious threats to the Institute's viability, which led the review committee to evaluate it overall as good. First, and most importantly, the WI has undergone a very drastic and painful restructuring and merging process, from which it has, four years later, still not fully recovered. The management has worked very hard, and successfully, on improving the interpersonal aspects of integration after the merger, on re-establishing a good working climate, on setting up various kinds of structures and initiatives for scientific interaction and cooperation, and on defining strategic targets for research output. However, this is only half of the job to be done. The current organisation of the research into three different groups is still not productive enough. The Institute - which presents itself as a research institute - needs an integrated and ambitious research programme that optimally exploits the complementary and multidisciplinary expertise available in the WI, a clear strategy for realizing that programme, and convincing first signs of its renewed success.

Second, simultaneously with, and not totally independently from, the restructuring and merging process, the WI's past international scientific prominence seems to have suffered not only from the natural outflow of very strong senior staff but also from the departure of talented junior staff. The current management and scientific staff seem to have difficulties in filling the gap created by the loss of key figures who contributed importantly to the Institute's scientific productivity and prestige. Surely, this problem can be partly resolved by setting up and exploiting close and productive collaborations with researchers and research teams outside the WI, at which the WI is very good. However, the WI's future viability clearly requires strong academic leadership within the Institute as well.

Third, there is the worrying tension between the WI's positive self-assessment of being academically very productive in scientific publications, research funding, and numbers of PhD during the past six years' period, while on the other hand the actual productivity data are less impressive when taking the available research FTE's into account. This tension requires some serious reflection by the management.

Finally, in view of its viability, striving for prestigious and competitive grants for (basic) research, while maintaining the high success rate of more practically oriented grant acquisition, should be a priority goal for the future of the WI as a research institute. The realisation of this goal will depend strongly on its success in handling the other viability issues. In short, the important task for the Institute is to design a research agenda and strategy for the near future that maximally exploits WI's strengths and addresses the challenges.

9.5 PhD training

Typical for the WI is the large number of external PhD candidates, who are mostly working individuals with strong professional and societal roots in teaching and education. As stated above, this is a strong aspect of the WI's PhD policy, with great possibilities both for research quality and societal relevance.

The PhD candidates consider the multidisciplinary composition of the WI to be a great attraction of their academic biotope. For several of them, this multidisciplinarity was a major reason to choose the WI. They are well aware that the WI involves various groups, each with their own academic history, cultures and

practices, and they accept this results in different expectations and requirements for the PhD. Interestingly, an increasing number of PhD candidates are being supervised by scientific staff members coming from different groups within the WI - which is a positive indication that the merging process is making progress. These PhD projects are laying the seeds for a potential successful merge.

The PhD candidates are happy with the intensive and complementary scientific training they get in the local Graduate School and the national doctoral schools (ICO and SIKS). They are also pleased with the courses they get at the WI, although they recommend improving the availability of information about courses as well as the academic level of some courses. They have regular and intensive contact with their supervisors, who introduce them to their international networks and stimulate and support them to finalise their PhD thesis in a timely manner. The actual PhD duration and success rates for the evaluation period are good (55% graduate after 5 years). The PhD candidates greatly enjoy the social atmosphere and productive interactions among themselves, and also the external and international candidates feel well integrated and supported.

9.6 Research integrity policy

At the WI, there is much attention to research integrity, research ethics and data management. This attention is well embedded within or aligned with initiatives and regulations at the Faculty and University level. This attention is reflected in various ways, including the provision of ample information and documentation about the code of conduct concerning research integrity, the obligation to sign a contract and swear an official oath concerning research integrity, the evaluation of all research projects on research integrity, and the development of a protocol for data management.

9.7 Diversity

With respect to gender, the OU as a whole scores very well on the Female Professor Monitor Ranking. This positive score is also reflected in the gender composition of the WI, where about half of the total staff are female. Moreover, this gender equity is reflected at all levels. Furthermore, the ethnicity of the scientific staff is very heterogeneous too, with 27 out of 62 staff being from different nationalities (mainly Asian and European).

9.8 Overview of the quantitative assessment of the Institute

For the Welten Institute the review committee comes to the following assessments according to SEP:

Research quality:	very good
Relevance to society:	excellent
Viability:	good

Appendix 1: SEP scores

Category	Meaning	Research quality	Relevance to society	Viability		
1	World leading/ excellent	The research unit has been shown to be one of the few most influential research groups in the world in its particular field	The research unit makes an outstanding contribution to society	The research unit is excellently equipped for the future		
2	Very good	The research unit conducts very good. internationally recognised research	The research unit makes a very good contribution to society	The research unit is very well equipped for the future		
3	Good	The research unit conducts good research	The research unit makes a good contribution to society	The research unit makes responsible strategic decisions and is therefore well equipped for the future		
4	Unsatisfactory	The research unit does not achieve satisfactory results in its field	The research unit does not make a satisfactory contribution to society	The research unit is not adequately equipped for the future		

Appendix 2: Programme of the site visit

Sunday	13 January - preparatory meeting
17.00	Preparatory meeting of the review committee in the hotel
19.30	Dinner
MONDA	AY 14 JANUARY - ICO NATIONAL RESEARCH SCHOOL
8.30	preparatory meeting
9:00	Management
	- Prof. dr. Diana Dolmans, Scientific Director of ICO, Maastricht University
	- Prof. dr. Liesbeth Kester, Educational Director of ICO, Utrecht University
	- Prof. dr. Pauline Meijer, Chair of the ICO Board, Radboud University Nijmegen
	- Prof. dr. Douwe Beijaard: member of ICOs Scientific committee and Examinations committee,
	member of the ICO Board, Eindhoven University of Technology
	- Rob Kickert MSc, ICO PhD member, Chair of the Educational Committee, Erasmus University
	Rotterdam
	- Drs. Caroline Vonk, Executive Secretary of ICO, Maastricht University, Utrecht University
9:45	PhD candidates
	- Eva Janssen MSc, Utrecht University
	- Marieke Veltman MA: Part time PhD candidate, Windesheim University of Applied
	Sciences/University of Amsterdam
	- Loes de Jong MSc, Leiden University
	- Anne de Bruijn MSc, University of Groningen
	- Daury Jansen MSc, University of Amsterdam
10:30	reflections and preparatory next meetings
MONDA	AY 14 JANUARY - MAASTRICHT UNIVERSITY SCHOOL OF HEALTH PROFESSIONS EDUCATION
11:00	Management
	- Prof. dr. Jeroen van Merriënboer, Professor of Learning and Instruction Research Director SHE
	- Prof. dr. Diana Dolmans Professor of Innovative Learning Arrangements, Representative of staff
	- Dr. Anique de Bruin PhD coordinator
	- Jolien Pieters, MSc representative of PhD candidates
	- Prof. dr. Cees van der Vleuten Professor of Education Scientific Director of the Graduate School of
	Health Professions Education.
11:45	Staff
	- Prof. Dr. Pim Teunissen, Professor of Work-based Learning in Health Care
	- Dr. Pascal van Gerven, Associate Professor, Coordinator PhD Research Proposal Writing Course
	- Dr. Karen Könings, Associate professor, member Ethical Committee.
	- Dr. Janneke Frambach, Assistant professor, support Qualitative Research
	- Dr. Renée Stalmeijer, Assistant professor, support Qualitative Research
	- Dr. Maryam Asoodar, Assistant professor, instructional design and e-learning
12:30	Lunch
13:00	PhD candidates
	- Lorette Stammen, MSc
	- Serge Mordang, MSc
	Stephanie Meeuwissen, MSc
	- Carolin Sehlbach, MSc

- Alexandra Kölm, MSc , International PhD candidate (via Skype)
- Joey Nicholson, MSc , International PhD candidate (via Skype)
- Adam Szulewski, MSc, International PhD candidate (via Skype)
 - Ikuo Shimizu, MSc International PhD candidate (via Skype)

13:30 reflections + preparing questions management

14:00 Management

14:30 reflections + preparing next meetings

MONDAY 14 JANUARY - UNIVERSITY OF AMSTERDAM: RESEARCH INSTITUTE OF CHILD DEVELOPMENT & EDUCATION

15:00 Management

- Prof. dr. Agneta Fischer, Dean Faculty of Social and Behavioural Sciences (Prof. Social Psychology on Emotions and Affective Processes)
- Prof. dr. Frans Oort, Director of the Research Institute of Child Development and Education (Professor of Methods and Statistics)
- Dr. Patty Leijten, Director of the PhD Programme of Child Development and Education (Assistant Professor in Research Programme of Child Development)

15:45 Staff

- Prof. dr. Carla van Boxtel (RPEDU), Professor of Domain Specific Learning, Teaching and learning of history
- Dr. Elise de Bree (RPEDU), Assistant professor of Developmental Disorders and Special Education, Psycholinguistics and dyslexia
- Dr. Lisa Gaikhorst (RPEDU), Assistant professor of Educational Sciences, Professional development of urban teachers
- Prof. dr. Henny Bos (RPCD) Professor of Preventive Youth Care, Sexual and gender diversity in families and youth
- Prof. dr. Geertjan Overbeek (RPCD) Professor of Preventive Youth Care, Parenting interventions
- Prof. dr. Geert-Jan Stams (RPCD) Professor of Forensic Child and Youth Care, Forensic pedagogy

16:30 Break

16:45 PhD candidates

- Ceren Abacioglu, MSc (RPEDU), PhD candidate of Educational Sciences
- Hanne Duindam, MSc (RPCD), PhD candidate of Forensic Child and Youth Care
- Sevinc Göksen- Zayim, MSc (RPEDU), PhD candidate of Domain Specific Learning
- Daury Jansen, MSc (RPEDU) PhD candidate of Educational Sciences
- Brechtje de Mooij, MSc (RPCD) PhD candidate Preventive Youth Care

17:15 reflections + preparing questions management

17:45 Management

18:15 reflection institutes day 1

TUESDAY 15 JANUARY - LEIDEN UNIVERSITY: INSTITUTE OF EDUCATION AND CHILD STUDIES

8.30 preparatory meeting

9.00 Management

- Prof. dr. Paul Wouters, Dean of the Faculty of Social and Behavioural Sciences
- Prof. dr. Judi Mesman Scientific Director of Education and Child Studies from January 2013-June
 2016 Professor of the interdisciplinary study of societal challenges
- Prof. dr. Lenneke Alink, Scientific Director Professor of Forensic Family Studies

Dr. MMarielle Linting, Director of Studies Associate Professor of Research Methods and Statistics

9.45 Staff

- Prof. dr. Paul van den Broek, Professor of Cognitive and Neuro-biological Foundations of Learning and Teaching, Educational Sciences - Prof. dr. Hanna Swaab Professor of Clinical Neurodevelopmental Sciences - Dr. Marga Sikkema-de Jong, Associate Professor of Learning and Behaviour Problems in Education - Dr. Ralph Rippe, Assistant Professor of Research Methods and Statistics - dr. Shelley van der Veek, Assistant Professor of Parenting, Child Care and Development 10.30 Break 10.45 PhD candidates - Nienke Bouw, MSc , PhD candidate Clinical Neurodevelopmental Sciences - Renate Buisman, MSc, PhD candidate Forensic Family and Youth Care Studies - Merel van Vliet, MSc, PhD candidate Parenting, Child Care and Development - Amy de Bruïne, MSc, PhD candidate Educational Sciences - Elise Swart, MSc, PhD candidate Learning and Behaviour Problems in Education 11.15 reflections + preparing questions management 11.45 Management 12.15 reflection and lunch TUESDAY 15 JANUARY - UNIVERSITY OF GRONINGEN: NIEUWENHUIS INSTITUTE FOR EDUCATIONAL RESEARCH 13.30 Management - Prof. dr. Kees Aarts, Dean - Prof. dr. Hans Grietens, Director of Research Institute 14.15 - Prof. dr. Klaas van Veen, Pedagogy and Effectiveness of Teacher Learning (Chair) - Prof. dr. Roel Bosker, Educational Effectiveness (Chair) - Prof. dr. Alexander Minnaert, Special Needs Education, Youth Care and Youth Studies - Prof. dr. Greetje Timmerman, Special Needs Education, Youth Care and Youth Studies - Dr. Nelleke Bakker (associate professor), Education in Culture 15.00 15.15 PhD candidates - Renske de Leeuw, MSc, Special Needs Education, Youth Care and Youth Studies - Mariëlle Osinga, MSc, Special Needs Education, Youth Care and Youth Studies - Pieter van Rees, MSc, Education in Culture - Marij Veldman, MSc, Educational Effectiveness - Irene Poort, MSc, Pedagogy and Effectiveness of Teacher Learning 15.45 reflections + preparing questions management 16.15 Management 16.45 reflection institutes day 2 WEDNESDAY 16 JANUARY - UTRECHT UNIVERSITY: DEPARTMENT OF EDUCATION & PEDAGOGY 8.30 preparatory meeting 9.00 Management - prof. dr. Marcel van Aken, Professor of Developmental Psychology - Dean of the Faculty of Social and Behavioural Sciences - prof. dr. Marian Jongmans, Professor of Special Education, Vice-Dean (graduate education) of the Faculty of Social and Behavioural Sciences - prof. dr. Jan van Tartwijk, Professor of Applied Educational Sciences

- Chair of the Department of Education & Pedagogy

prof. dr. Tamara van Gog, Professor of Educational Sciences, Head of research, section
 Education, Dept. Education & Pedagogy

9.45 Staff

- prof. dr. Susan Branje, Professor of Adolescent Development and Socialization, Head of the section Youth & Family, Dept. Education & Pedagogy
- prof.dr. Maja Dekovic, Professor of Clinical Child and Family Studies, Head of section Clinical Child & Family Studies, Dept. Education & Pedagogy
- Prof.dr. Catrin Finkenauer, Professor of Youth Studies, Head of section Interdisciplinary Social Sciences: Cultural Diversity & Youth, Dept. Social Sciences
- prof.dr. Paul Leseman, Professor of Special Education, Head of section Special Education:
 Cognitive and Motor Disabilities, Dept. Education & Pedagogy
- prof.dr. Tamara van Gog, Professor of Educational Sciences, Head of research, section Education,
 Dept. Education & Pedagogy

10.30 Break

10.45 PhD candidates

- Monika Donker, MSc, Member of the PhD Council of the Faculty of Social and Behavioural Sciences PhD candidate section Education
- Lydia Laninga-Wijnen, MSc, PhD candidate section Interdisciplinary Social Sciences: Cultural Diversity & Youth
- Stefanos Mastrotheodoros, PhD, PhD candidate section Youth & Family
- Marije Stolte, MSc, PhD candidate section Special Education: Cognitive & Motor Disabilities
- Rianne van Dijk, MSc, PhD candidate section Clinical Child & Family Studies
- Mare van Hooijdonk, MSc, PhD candidate section Education

11.15 reflections + preparing questions management

11.45 Management

12.15 reflection and lunch

WEDNESDAY 16 JANUARY - UTRECHT UNIVERSITY FREUDENTHAL INSTITUTE

13.30 Management

- Prof. dr. Isabel Arends, dean
- Prof. dr. Sjef Smeekens, Vice-dean research,
- Prof. dr. Guther Cornelissen, previous head department Mathematics
- Prof. dr. Toine Pieters, Head Freudenthal Instituut
- Prof dr. Wouter van Joolingen, scientific director

14.15 Staff

- Prof. dr. Paul Drijvers, professor of Mathematics Education
- Prof .dr. Bert Theunissen, professor of History and Philosophy of Science
- Dr. Arthur Bakker, associate professor Mathematics Education
- Dr. Christine Knippels assistant professor of didactics of biology
- Dr. Hieke Huistra assistant professor of history of science and medicine

- Dr. Ralph Meulenbroeks - assistant professor of didactics of physics

15.00 Break

15.15 PhD candidates

- Rosa Alberto, MSc
- Melde Gilissen, MSc
- Sietske Tacoma, MSc
- Berrie van der Molen, MA
- Anne van Veen, MA
- Luhuan Huang, MSc

15.45 reflections + preparing questions management

16.15	Management
16.45	reflection institutes day 3
THURS	DAY 17 JANUARY - OPEN UNIVERSITY: WELTEN INSTITUTE
8.30	preparatory meeting
9.00	Management
	- prof. dr. Saskia Brand-Gruwel, Dean
	- prof. dr. Marcus Specht, Chair research group TELI
	- prof. dr. Renate de Groot, Chair research group FEEEL
	- prof. dr. Rob Martens, Chair research group T2
	- prof. dr. Marjan Vermeulen, Educational Director
	- dr. Jeroen Winkels, Academic Affairs OU
9.45 -	Staff
	- prof. dr. Hendrik Drachsler, HL (TELI)
	- dr. Jose Janssen, associate professor (TELI)
	- dr. Kim Dirkx, assistant professor (FEEEL)
	- dr. Jerome Gijselaers, assistant professor (FEEEL)
	- dr. Karel Kreijns, associate professor (T2)
	- dr. Gino Camps, associate professor (T2)
10.30	Break
10.45	PhD candidates
	- Kevin Akkermans, PhD-student (TELI)
	- Alessandra Antonaci, PhD-student (TELI)
	- Sharisse van Driel, PhD-student (FEEEL)
	- Laurie Delnoij, PhD-student (T2)
	- Lisa Boonk, External PhD student
11.15	reflections + preparing questions management
11.45	management
12.15	Reflection and lunch
13.00	overall reflection
15:00	presentation of first conclusions

Appendix 3A: Quantitative data - School of Health Professions Education, Maastricht University

Table 1 Publications Maastricht University

	2012	2013	2014	2015	2016	2017	average	total
Articles (refereed)	137	138	116	112	124	141	128	768
articles (non-refereed)								0
Books	4	1	0	0	0	1	1	6
Book chapters	17	15	10	9	3	16	12	70
subtotal	158	154	126	121	127	158	140.7	844
PhD theses	11	8	11	8	9	9	9	56
Other research output scientific	5	11	8	10	20	10	11	64
Conference proceedings	17	6	18	23	21	6	15	91
Total	180	171	152	154	168	174	167	999

Table 2 Funding Maastricht University

	2012	2013	2014	2015	2016	2017	ave	erage	total
	fte	%	fte						
Direct funding	17.4	14.1	13	16.5	20.1	25.8	17.8	69%	124.7
research grants									
- national	2.5	2.4	1.8	1.5	2.9	3.6	2.5	10%	17.2
- European	0	0	0.4	1	1.8	2.8	1.0	3%	7.0
contract research	3.3	2.2	1.7	1.5	2	3.1	2.3	9%	16.1
other	0.5	1.6	2.5	2.6	2.9	3.7	2.3	9%	16.1
total research funding	23.7	20.3	19.4	23.1	29.7	39	25.9		181.1
Expenditure in k€									
personnel	1285	1265	1312	1556	1954	2572	1657.3	109%	11601
other costs	234	201	189	217	490	830	360.2	16%	2521.2
total expenditure	1519	1466	1501	1773	2444	3402	2018		14122

Table 3 Staff Maastricht University

	2012		2013		2014		2015		2016		2017		Average	
	n	fte	n	Fte										
Scientific Staff	31	7.9	31	7.8	31	7.6	32	7.9	43	9.1	47	11.1	36	8.6
Postdocs	0	0	1	0.6	1	1	2	1.2	5	3.8	7	4.2	3	1.8
PhD candidates	12	9.3	13	7.6	12	7.5	14	10.4	17	12.1	23	17.5	15	10.7
part-time PhD	52	1.6	58	0.5	65	0.3	69	0	77	0.7	75	1.4	66	8.0
candidates														
total research staff	95	18.8	103	16.5	109	16.4	117	19.5	142	25.7	152	34.2	120	21.9
support staff	9	4.9	9	3.9	9	2.9	12	3.6	17	3.9	43	4.7	17	4.0
visiting fellows	1		2		1		3		3			0	2	0.0
total staff	105	23.7	114	20.4	119	19.3	132	23.1	162	29.6	195	38.9	138	25.8

Table 4 PhD duration and success rate, fulltime, Maastricht University

	enrol	ment		4 yrs	graduated in	5 yrs	graduated in	6 yrs	graduated in	>= 7 yrs	Graduated in	finished	not yet	Discontinued	
	М	F	tot	#	%	#	%	#	%	#	%	#	%	#	%
2008	1	3	4	1	25%	4	100%	4	100%	4	100%	0	0%	0	0%
2009	0	3	3	1	33%	3	100%	3	100%	3	100%	0	0%	0	0%
2010	0	1	1	0	0%	0	0%	1	100%	1	100%	0	0%	0	0%
2011	1	2	3	1	33%	0	0%	3	100%	3	100%	0	0%	0	0%
2012	0	0	0	0											
2013	1	3	4	0	0%	3	75%					1	25%	0	0%
2014	0	1	1	0	0%							1	100%	0	0%
total	3	13	16	3	19%	10	67%	11	100%	11	100%	2	13%	0	0%

Table 5 PhD duration and success rate, part-time, Maastricht University

Chiverenty															
	enro	lment		4 yrs	graduated in	5 yrs	graduated in	6 yrs	graduated in		Graduated in	finished	not yet	Discontinued	
	М	F	tot	#	%	#	%	#	%	#	%	#	%	#	%
2008	4	4	8	3	38%	5	63%	6	75%	8	100%	0	0%	0	0%
2009	2	6	8	1	13%	3	38%	4	50%	5	63%	0	0%	3	38%
2010	2	1	3	1	33%	1	33%	1	33%	2	67%	1	33%	0	
2011	2	8	10	2	20%	5	50%	6	60%	7	70%	1	10%	2	20%
2012	5	5	10	5	50%	7	70%	8	80%			2	20%	0	
2013	7	8	15	2	13%	2	13%					8	53%	5	33%
2014	9	4	13	3	23%							10	77%	0	0%
total	31	36	67	17	25%	23	43%	25	64%	22	76%	22	33%	10	15%

Appendix 3B: Quantitative data - Research Institute of Child Development and Education, University of Amsterdam

Table 1: Publications University of Amsterdam

	2012	2013	2014	2015	2016	2017	Average	total
Articles (refereed)	149	139	166	200	180	202	173	1036
articles (non-refereed)	2	6	3	0	0	1	2	12
Books	1	1	0	0	0	0	0	2
Book chapters	49	22	26	28	29	20	29	174
subtotal	201	168	195	228	209	223	204	1224
PhD theses	12	9	8	8	14	18	12	69
- Internal	12	6	4	5	11	10	8	48
- External	0	3	4	3	3	8	4	21
other research output scientific	106	108	101	122	95	108	107	640
policy reports	13	17	17	17	20	14	16	98
professional publications and	184	196	195	242	160	138	186	1115
lectures								
Publications aimed at general	43	31	39	80	70	54	53	317
public								
Total	559	529	555	697	568	555	577	3463

Table 2 Funding University of Amsterdam

	2012	2013	2014	2015	2016	2017	a	verage
	fte	fte	fte	fte	fte	fte	fte	%
Direct funding	25.28	17.99	22.29	29.35	36.4	36.95	28.0	45%
research grants	18.61	20.07	22.26	24.26	22.81	26.21	22.4	36%
- national	16.83	19.24	22.2	24.19	21.37	24.55	21.4	35%
- European	1.78	0.83	0.06	0.07	1.44	1.67	1.0	2%
contract research	7.09	9.53	10.62	9.56	8.38	7.38	8.8	15%
Other	2.4	2.23	2.13	3.07	2.77	2.58	2.5	4%
total research funding	53.38	49.82	57.3	66.24	70.36	73.13	61.7	
Expenditure in k€								
personnel	3.558	3.301	3.732	4.417	4.721	5.127	4.1	68%
other costs	2.52	2.416	2.523	2.871	3.086	2.849	2.7	40%
total expenditure	6.078	5.717	6.255	7.288	7.807	7.976	6.9	

Table 3 Staff University of Amsterdam

	20	012	20	013	20	014	2	015	20	016	20	017	ave	erage
	n	fte												
Scientific Staff	47	15.9	49	14.5	47	14.6	46	14.9	52	15.9	55	19.1	49	15.8
Postdocs	20	7.9	20	6.0	27	11.1	33	17.2	36	16.5	39	15.3	29	12.4
PhD candidates	35	18.3	29	15.7	37	21.6	38	19.1	43	20.2	38	22.2	37	19.5
part-time PhD	8	2.73	10	2.78	17	4.78	21	4.03	21	2.43	17	0.29	16	2.8
candidates														
total research	110	44.9	108	39.0	128	52.1	138	55.2	152	55.0	149	56.9	131	50.5
staff														
support staff	4	2.4	4	1.3	4	1.4	4	1.3	4	1.2	4	1.1	4	1.4
visiting fellows	2	0	1	0	2	0	1	0	1	0	0	0	1	0.0
total staff	116	47.3	113	40.2	134	53.5	143	56.6	157	56.2	153	58.0	136	52.0

Table 4: PhD duration and success rate, fulltime, University of Amsterdam

	enro	lment		4 yrs	graduated in	5 yrs	graduated in	6 yrs	graduated in	>= 7 yrs	Graduated in	finished	not yet	Discontinued	
	М	F	tot	#	%	#	%	#	%	#	%	#	%	#	%
2008	1	8	9	1	11%	6	67%	7	78%	8	89%	1	11%		0%
2009	1	7	8	3	38%	4	50%	5	63%	7	88%	1	13%		0%
2010	1	6	7	2	29%	3	43%	5	71%	6	86%	1	14%		0%
2011	1	4	5	0	0%	2	40%	3	60%	3	60%	1	20%	1	20%
2012	0	3	3	0	0%	1	33%	1	33%			1	33%	1	33%
2013	2	4	6	1	17%	3	50%					3	50%		0%
2014	2	11	13	4	31%							8	62%	1	8%
total	8	43	51	11	22%	23	61%	21	66%	24	83%	16	31%	3	6%

Table 5: PhD duration and success rate, part-time, University of Amsterdam

	enro	olment		4 yrs	graduated in	5 yrs	graduated in	6 yrs	graduated in	>= 7 yrs	Graduated in	finished	not yet	Discontinued	
part-time	М	F	tot	#	%	#	%	#	%	#	%	#	%	#	%
2008	0	1	1	0	0%	1	100%	1	100%	1	100%	0	0%		0%
2009	0	2	2	0	0%	0	0%	0	0%	2	100%	0	0%		0%
2010															
2011	2	3	5	0	0%	2	40%	4	80%	5	100%	0	0%		0%
2012															
2013	0	3	3	0	0%	0	0%					3	100%		0%
2014	5	4	9	2	22%							4	44%	3	33%
total	7	13	20	2	10%	5	45%	5	63%	8	100%	7	35%	3	15%

Appendix 3C: Quantitative data - Institute of Education and Child Studies, Leiden University

Table 1 Publications Leiden University

	2012	2013	2014	2015	2016	2017	average	total
Articles (refereed)	85	81	100	108	110	107	99	591
articles (non-refereed)	10	15	11	7	0	3	8	46
Books	0	1	3	1	5	3	2	13
Book chapters	16	25	16	19	19	14	18	109
subtotal	111	122	130	135	134	127	126.5	759
PhD theses								
internal	8	9	10	12	6	11	9	56
Total	119	131	140	147	140	138	136	815

Table 2 Funding Leiden University

	2012	2013	2014	2015	2016	2017	average	
	fte	%						
Direct funding	16.09	21.78	25.58	28.46	36.22	30.32	26.4	53%
research grants								
- national	13.53	13.37	14.48	18.7	10.15	8.22	13.1	26%
- European	6.99	7.42	5.02	2.19	2.54	3.38	4.6	10%
contract research	5.52	5.67	8.33	7.36	3.84	2.83	5.6	11%
other								
total research funding	42.13	48.24	53.41	56.71	52.75	44.75	49.7	
Expenditure in k€								
personnel	2280	2709	2955	3174	3071	2732	2820.2	92%
other costs	777	1054	865	449	385	892	737.0	21%
total expenditure	3057	3763	3820	3623	3456	3624	3557.2	

Table 3: Staff Leiden University

	·													
	2	012	2	013	2	2014	2	015	2	016		2017	ave	erage
	n	fte	n	fte	n	fte	n	fte	n	fte	N	fte	n	fte
Scientific Staff	37	9.4	41	10.8	47	12.0	45	11.9	44	10.7	43	10.4	43	10.9
Postdocs	8	3.8	8	3.7	7	3.4	12	6.0	13	7.5	10	6.7	10	5.2
PhD candidates	23	19.7	31	26.4	31	27.0	30	26.4	29	25.2	26	23.3	28	24.7
part-time PhD	22	9.5	25	9.1	28	10.8	30	11.4	24	10.7	18	6.6	25	9.7
candidates														
total research	90	42.4	105	49.9	113	53.2	117	55.6	110	54.0	97	47.0	105	50.4
staff														

Table 4 PhD duration and success rate, fulltime, Leiden University

PhD duration and success rate	enro	lment		4 yrs	graduated in	5 yrs	graduated in	6 yrs	graduated in	>= 7 yrs	Graduated in	finished	not yet	Discontinued	
fulltime	М	F	tot	#	%	#	%	#	%	#	%	#	%	#	%
2009	0	9	9	2	22%	5	56%	7	78%	7	78%	0	0%	2	22%
2010	0	9	9	2	22%	3	33%	6	67%	8	89%	1	11%	0	0%
2011	0	8	8	2	25%	3	38%	5	63%	8	100%	0	0%	0	0%
2012	1	12	13	5	38%	7	54%	9	69%			4	31%	0	0%
2013	0	8	8	1	13%	4	50%					3	38%	1	13%
2014	0	11	11	0	0%							10	91%	1	9%
total	1	57	58	12	21%	22	47%	27	69%	23	88%	18	31%	4	7%

Table 5 PhD duration and success rate, part-time, Leiden University

PhD duration and success rate	enro	olment		4 yrs	graduated in	5 yrs	graduated in	6 yrs	graduated in	>= 7 yrs	Graduated in	finished	not yet	Discontinued	
part-time	М	F	tot	#	%	#	%	#	%	#	%	#	%	#	%
2009	0	1	1	0	0%	1	100%	1	100%	1	100%	0	0%	0	0%
2010	0	0	0	0											
2011	0	0	0	0											
2012	0	0	0	0											
2013	0	1	1	0	0%	0	0%					1	100%		0%
2014	0	2	2	0	0%	1						1	50%		0%
total	0	4	4	0	0%	2	100%	1	100%	1	100%	2	50%	0	0%

Appendix 3D. Quantitative data - Nieuwenhuis Institute for Educational Research, University of Groningen

Table 1 Publications University of Groningen

	2012	2013	2014	2015	2016	2017	average	total
Articles (refereed)	118	86	134	135	138	102	119	713
articles (non-refereed)	1	10	3	3	2	0	3	19
Books	15	2	10	5	4	3	7	39
Book chapters	33	11	35	26	21	35	27	161
subtotal	167	109	182	169	165	140	155.3	932
PhD theses	12	5	11	20	15	7	12	70
other research output scientific	1	6	9	2	4	3	4	25
policy reports	28	22	18	16	17	21	20	122
professional publications and	36	47	38	38	37	32	38	228
lectures								
Publications aimed at the	2	5	4	7	6	3	5	27
general public								
Total	234	189	251	232	229	199	222	1334

Table 2 Funding University of Groningen

	2012	2013	2014	2015	2016	2017	average	
Direct funding	2942.9	3047	3201.6	3195.1	3317	3155.3	3143.2	53%
research grants								
- national	244.8	1380.3	709.5	1445.4	952.7	1150.1	980.5	15%
- European		160	160			40.9	120.3	1%
contract research	308	1100.5	3184.9	2661.4	2674.5	1545.8	1912.5	28%
other	128.5	4.7	224.8	336.6	187.1	166.8	174.8	3%
total research funding	3624.2	5692.5	7480.8	7638.5	7131.3	6058.9	6331.2	
Expenditure in k€								
personnel	4349.7	4796	4810.7	5716.2	7303.5	6611.8	5598.0	122%
other costs	221.7	284.9	306.8	261.5	390.3	470.2	322.6	5%
total expenditure	4571.4	5080.9	5117.5	5977.7	7693.8	7082	5920.6	

Table 3 Staff University of Groningen

	2012		2013		2014		2015		2016		2017		avera	ige
	n	fte	n	fte										
Scientific Staff	41	13.4	48	17.5	44	15.8	43	16.2	53	18.5	50	19	47	16.7
Postdocs	29	17.1	34	16.8	58	19.9	65	28	45	22.8	47	17	46	20.3
PhD candidates	38	25.6	42	29.2	39	25.8	45	29.4	51	34.8	52	35	45	30.0
part-time PhD candidates	20	8	27	10.8	32	12.8	36	14.4	43	17.2	39	15.6	33	13.1
total research staff	128	64.1	151	74.3	173	74.3	189	88	192	93.3	188	86.6	170	80

Table 4 PhD duration success rate, fulltime, University of Groningen

	enro	lment		yrs	graduated in 4	yrs	graduated in 5	yrs	graduated in 6	7 yrs	Graduated in >=	not yet finished		Discontinued	
fulltime	М	F	tot	#	%	#	%	#	%	#	%	#	%	#	%
2008	1	6	7	0	0%	3	43%	3	43%	6	86%	0	0%	1	14%
2009	3	7	10	0	0%	1	10%	8	80%	8	80%	0	0%	2	20%
2010	1	7	8	1	13%	3	38%	6	75%	6	75%	1	13%	1	13%
2011	1	2	3	0	0%	0	0%	1	33%	2	67%	1	33%	0	0%
2012	1	3	4	0	0%	1	25%	2	50%			1	25%	1	25%
2013	1	5	6	1	17%	3	50%					3	50%	0	0%
2014	2	9	11	1	9%							1	9%	2	18%
total	10	39	49	3	6%	11	29%	20	63%	22	79%	7	14%	7	14%

Table 5 PhD duration success rate, part0time, University of Groningen

	enro	lment		yrs	graduated in 4	yrs	graduated in 5	yrs	graduated in 6	7 yrs	Graduated in >=	not yet finished		Discontinued	
part-time	М	F	tot	#	%	#	%	#	%	#	%	#	%	#	%
2008	2	7	9	1	11%	3	33%	5	56%	6	67%	2	22%	1	11%
2009	0	4	4	0	0%	2	50%	3	75%	4	100%	0	0%	0	0%
2010	3	6	9	1	11%	3	33%	5	56%	6	67%	1	11%	2	
2011	1	4	5	0	0%	2	3%	3	60%	3	60%	2	40%	0	0%
2012	3	7	10	1	10%	3	30%	3	30%			6	60%	1	
2013	3	4	7	1	14%	1	14%					4	57%	2	29%
2014	3	10	13	1	8%							11	85%	1	8%
total	15	42	57	5	9%	14	32%	19	51%	19	70%	26	46%	7	12%

Appendix 3E. Quantitative data - Department of Education & Pedagogy, Utrecht University

Table 1 Publications Department of Education & Pedagogy, Utrecht University

Publications	2012	2013	2014	2015	2016	2017	average	total
Articles (refereed)	218	215	233	267	279	254	244	1466
articles (non-refereed)	1	0	0	0	3	0	1	4
Books	9	6	8	13	6	9	9	51
Book chapters	51	41	48	49	22	26	40	237
subtotal	279	262	289	329	310	289	293	1758
PhD theses	9	15	20	11	9	11	13	75
other research output scientific	4	6	6	8	9	2	6	35
policy reports	9	18	5	8	11	17	11	68
professional publications and								
lectures	44	53	57	54	47	34	48	289
Publications aimed at the								
general public	2	4	6	14	9	12	8	47
Total	338	343	363	413	386	354	366	2197

Table 2 Funding Department of Education & Pedagogy, Utrecht University

	2012	2013	2014	2015	2016	2017	av	erage
Direct funding	28.17	31.02	28.28	305	38.85	41.8	78.9	53%
research grants								
- national	28.14	30.26	27.84	32.13	30.5	26.42	29.2	35%
- European	0.92	1.23	1.71	2.54	3.4	3.3	2.2	3%
contract research	4.36	10.16	10.74	7.86	3.72	3.33	6.7	8%
other	0	0.87	1.85	1.72	1.06	1.52	1.2	1%
total research funding	61.59	73.54	70.42	349.25	77.53	76.37	118.1	
Expenditure in k€								
personnel	4066	4958	5064	5652	5725	5894	5226.5	100%
other costs	1164	1089	1020	1139	1369	1333	1185.7	19%
total expenditure	5230	6047	6084	6791	7094	7227	6412.2	

Table 3 Staff Department of Education & Pedagogy, Utrecht University

	2012		2013		2014		2015		2016		2017		avera	ige
	n	fte	n	fte										
Scientific Staff	50	20.2	47	19.2	45	19.7	65	25.6	66	25.2	66	26.2	57	22.7
Postdocs	22	11.3	20	10.7	31	15.4	35	16.7	33	15.2	26	13.8	28	13.9
PhD candidates	43	28.9	45	28.6	31	20.7	29	18.0	34	22.2	30	20.4	35	23.1
part-time PhD	23	8.5	31	10.4	28	11.5	38	14.5	36	15.7	41	15.6	33	12.7
candidates														
total research	138	69.0	143	68.8	135	67.3	167	74.8	169	78.2	163	76.0	154	72.4
staff														
support staff	1	0.5	1	0.2	1	8.0	3	0.6	4	2.7	4	2.2	2	1.2
visiting fellows	0		3		1		2		4		3		2	
total staff	139	69.5	147	69.0	137	68.1	172	75.3	177	80.9	170	78.2	157	73.5

Table 4 PhD duration success rate, fulltime, Department of Education & Pedagogy, Utrecht University

PhD duration and success rate	enro	lment		yrs	graduated in 4	yrs	graduated in 5	yrs	graduated in 6	7 yrs	Graduated in >=	not yet finished		Discontinued	
fulltime	М	F	tot	#	%	#	%	#	%	#	%	#	%	#	%
2008	1	10	11	3	27%	9	82%	11	100%	11	100%		0%		0%
2009	1	11	12	3	25%	10	83%	11	92%	11	92%		0%	1	8%
2010	3	9	12	2	17%	7	58%	9	75%	10	83%	1	8%	1	8%
2011	3	7	10	3	30%	6	60%	7	70%	7	70%	3	30%		0%
2012	1	3	4	0	0%	2	50%	2	50%			1	25%	1	25%
2013	0	5	5	3	60%	3	60%					1	20%	1	
2014	1	3	4		0%							4	100%		0%
total	10	48	58	14	24%	37	69%	40	82%	39	87%	10	17%	4	7%

Table 5 PhD duration success rate, fulltime, Department of Education & Pedagogy, Utrecht University

PhD duration and success rate	enro	lment		yrs	graduated in 4	yrs	graduated in 5	yrs	graduated in 6	7 yrs	Graduated in >=	not yet finished		Discontinued	
part-time	М	F	tot	#	%	#	%	#	%	#	%	#	%	#	%
2008	3	4	7	2	29%	3	43%	7	100%	7	100%		0%		0%
2009	1	6	7	0	0%	1	14%	3	43%	4	57%	1	14%	2	29%
2010	0	6	6	1	17%	1	17%	3	50%	4	67%	2	33%	1	
2011	1	6	7	0	0%	2	29%	2	29%	2	29%	3	43%	2	29%
2012	2	3	5	1	20%	2	40%	2	40%			3	60%		
2013	2	2	4	1	25%	1	25%					3	75%		0%
2014	1	4	5	1	20%							4	80%		0%
total	10	31	41	6	15%	10	28%	17	53%	17	63%	16	39%	5	12%

Appendix 3F. Quantitative data - Freudenthal Institute, Utrecht University

Table 1 Publications Freudenthal Institute, Utrecht University

	2012	2013	2014	2015	2016	2017	average	total
Articles (refereed)	26	26	44	38	35	22	32	191
articles (non-refereed)	1	0	4	0	0	4	2	9
Books	1	0	2	3	1	2	2	9
Book chapters	3	17	15	15	20	17	15	87
subtotal	31	43	65	56	56	45	49.3	296
PhD theses	1	8	7	5	1	5	5	27
other research output scientific	11	14	19	24	15	16	17	99
Conference papers	10	8	20	14	8	7	11	67
Total	52	65	104	94	79	68	77	462

Table 2 Funding Freudenthal Institute, Utrecht University

	2012	2013	2014	2015	2016	2017	av	erage
Direct funding	4.97	4.98	6.6	4.78	6.6	8.02	6.0	43%
research grants	0.6	0.15	3.94	7.6	7.1	6.92	4.4	28%
contract research	4.14	4.56	6.87	2.69	2	2.3	3.8	29%
other								
total research funding	9.71	9.69	17.41	15.07	15.7	17.24	14.1	
Expenditure in k€								
personnel	719	743	1094	962	1049	1149	952.7	115%
other costs	108	111	164	144	157	172	142.7	13%
total expenditure	827	854	1258	1106	1206	1321	1095	

Table 3 Staff Freudenthal Institute, Utrecht University

Staff FI	2012		2013		2014		2015		2016		2017		avera	ge
	n	fte	n	fte										
Scientific Staff	16	4.9	20	6.0	23	6.2	16	2.6	21	4.1	16	3.4	19	4.5
Postdocs	1	0.7	2	1.3	2	1.2	3	1.8	5	3.1	6	3.1	3	1.9
PhD candidates	7	5.6	7	5.6	13	9.9	10	6.6	9	6.2	7	5.7	9	6.6
part-time PhD														
candidates	5	3.3	5	1.7	8	2.6	1	0.2	4	1.1	7	3.1	5	2.0
total research														
staff	29	14.4	34	14.5	46	20.0	30	11.1	39	14.4	36	15.4	35.7	15.0
support staff	0		0		0		0		0		0		0	
visiting fellows	4		6		2		1		6		6		4	
total staff	33	14.4	40	14.5	48	20.0	31	11.1	45	14.4	42	15.4	39.8	15.0

Table 4 PhD duration and success rate, fulltime, Freudenthal Institute, Utrecht University

PhD duration and success rate	enro	lment		yrs	graduated in 4	yrs	graduated in 5	yrs	graduated in 6	7 yrs	Graduated in >=	not yet finished		Discontinued	
fulltime	М	F	tot	#	%	#	%	#	%	#	%	#	%	#	%
2008		3	3	1	33%	2	67%	2	67%	2	67%			1	33%
2009		3	3	0	0%	1	33%	2	67%	2	67%			1	33%
2010		1	1	1	100%	1	100%	1	100%	1	100%				
2011	4		4	4	100%	4	100%	4	100%	4	100%				
2012	3	1	4	2	50%	3	75%	3	75%			1	25%		
2013			0												
2014	4	1	5	1	20%							3	60%	1	20%
total	11	9	20	10	50%	11	73%	12	80%	9	82%	4	20%	3	15%

Table 5 PhD duration and success rate, part-time, Freudenthal Institute, Utrecht University

PhD duration and success rate	enro	olment		yrs	graduated in 4	yrs	graduated in 5	yrs	graduated in 6	7 yrs	Graduated in >=	not yet finished		Discontinued	
part-time	М	F	tot	#	%	#	%	#	%	#	%	#	%	#	%
2008	1	1	2	1	50%	1	50%	1	50%	1	50%			1	50%
2009	1		1	1	100%	1	100%	1	100%	1	100%				
2010															
2011															
2012	1		1	0	0%	1	100%	1	100%	1	100%				
2013	1	1	2	0	0%	0	0%					1	50%	1	50%
2014															
total	4	2	6	2	33%	3	50%	3	75%	3	75%	1	17%	2	33%

Appendix 3G. Quantitative data - Welten Institute, Open University of the Netherlands

Table 1 Publications Open University of the Netherlands

	2012	2013	2014	2015	2016	2017	average	total
Articles (refereed)	89	63	89	64	72	69	74	446
articles (non-refereed)								
Books	10	11	12	8	4	4	8	49
Book chapters	12	56	24	23	10	18	24	143
subtotal	111	130	125	95	86	91	106	638
PhD theses	9	9	4	14	8	6	8	50
other research output scientific	43	30	32	28	29	35	33	197
reports incl. technical reports	47	22	39	16	18	24	28	166
professional publications and								
lectures	73	122	50	43	38	29	59	355
masterclasses MOOCS	22	23	12	5	6	3	12	71
Total	296	327	258	187	177	182	238	1427

Table 2 Funding Open University of the Netherlands

	2012	2013	2014	2015	2016	2017	ave	erage
Direct funding	94.4	92.4	44.8	42.5	36.7	34.9	57.6	69%
research grants	27.8	27.3	17.2	17.5	19.7	19.8	21.6	28%
- national			2.9	3.8	5.3	5.1	4.3	5%
- European			14.3	13.7	14.4	14.7	14.3	16%
contract research	5.5	1.8	2.2	1.7	1.9	2.2	2.6	3%
total research funding	127.7	121.5	64.2	61.7	58.3	56.9	78.7	
Expenditure in k€								
personnel	4117	5865	4588	4486	4588	4596	4706.7	82%
other costs	1458	688	517	777	517	666	770.5	14%
total expenditure	5575	6553	5105	5263	5105	5262	5477	

Table 3 Staff Open University of the Netherlands

Staff OU	2012		2013		2014		2015		2016		2017		average	
	n	fte	n	fte										
Scientific Staff	78	24.7	72	23.2	46	16.0	44	15.4	42	14.4	36	12.2	53	17.6
Postdocs	7	2.6	6	2.1	4	1.4	5	1.8	5	1.8	5	1.8	5	1.9
PhD candidates	26	9.8	25	9.5	22	8.3	20	7.5	17	6.7	20	7.8	22	8.3
total research														
staff	111	37	103	34.8	72	25.7	69	24.7	64	22.9	61	21.8	80	27.8
support staff	45	14.1	45	13.9	0	0	0	0	1	0.4	1	0.4	15	4.8
visiting fellows														
total staff	156	51.1	148	48.7	72	25.7	69	24.7	65	23.3	62	22.2	95	32.6