

RESEARCH REVIEW
UTRECHT INSTITUTE OF LINGUISTICS OTS
UTRECHT UNIVERSITY

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Project number: Q 0690
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This report was finalized on 12 February 2019

REPORT ON THE RESEARCH REVIEW OF UTRECHT INSTITUTE OF LINGUISTICS OTS OF UTRECHT UNIVERSITY

1. FOREWORD BY COMMITTEE CHAIR

The evaluation committee that authored this report was assembled by QANU (Quality Assurance Netherlands Universities) at the request of the participating universities (including Utrecht University), and it included expertise from a broad spectrum of linguistic sub-disciplines, consisting, as it did of Prof. Dr. B. (Balthasar) Bickel, Zurich; Prof. Dr. A. (Ann) Bradlow, Northwestern (Evanston, Illinois); Prof. Dr. S. (Seana) Coulson, University of California at San Diego; Prof. Dr. J. (Jane) Grimshaw, Rutgers (New Jersey); Prof. Dr. A. (Alison) Mackey, Georgetown (Washington, D.C.); Prof. Dr. Ir. J. (John) Nerbonne [chair], em. Groningen and Freiburg, and Prof. Dr. W. (Wendy) Sandler, Haifa (Israel). Beyond their specialist expertise, the members were remarkable and valuable for their broad view of linguistics and their willingness to examine scientific areas well outside their research foci proper and for their energy in considering practical issues of organization, financing and management that often seemed foreign. These topics were also included in the evaluation. The committee also enjoyed its collaboration and I am grateful to all of them for their professional attitudes and pleasant interaction.

Jetje De Groof served as secretary to the committee, and she was essential to the process at all stages, suggesting a division of labour, providing more concrete instructions to committee members on how to follow the Standard Evaluation Protocol (SEP), as well as on how to keep the "Terms of Reference" (ToR) of our particular evaluation in mind, and sitting at my right hand during meetings and keeping notes to ensure that the committee was addressing *all* the crucial points of the SEP and the ToR. She also received the rough drafts of all the various parts of the report, which she edited with me, and I was very grateful not only for her close attention to the report's expected topics, but also for her efficient and clear style of writing. One committee member – confusing the various specialized meanings of the word 'secretary' – objected that she be referred to at all in this way: "She was so much more!". I am grateful for all the very competent work that she invested in this report.

The researchers of the Utrecht Institute of Linguistics (UiL OTS) at Utrecht University (UU) were assiduous in providing us with a great deal of information on their work in the six year review period, 2012-2017, not only with respect to matters that are normally catalogued carefully, such as publications and grants, but also with respect to their record in matters that often fall outside academic reporting, such as work on scientific popularization or marks of recognition from outside academia. We received a thirty page report plus 13 appendices, most of them informationally dense. All of this material facilitated the committee in obtaining as complete a picture of the work at UiL OTS as possible. On the occasion of our visit on Oct. 4, 2018 we spoke with over 30 UiL OTS members about their scientific work; their aspirations, and how well they found themselves able to work and advance professionally at the UU; how well their various research lines dovetailed with the institute's strategic emphases – both scientifically and with respect to extra-scientific interests and applications; and, perhaps most extensively, about their frustrations in seeking to realize serious scientific and applied-science ambitions at the UiL OTS. I am certain that I speak for all committee members when I acknowledge how much we profited from the very cooperative atmosphere we encountered during our visit to the UiL OTS.

A chair who is currently an emeritus professor may be forgiven a personal note, even in the foreword to a very official document. Science, I believe, profits a great deal from its younger practitioners. They see correctly that they can contribute and be recognized if they are tenacious enough to continue to insist on their insights, to search for new evidence, and to keep developing new

demonstrations, even while ignoring some criticism. The stereotyped self-opinionated researcher isn't without problems, but lots of advances are due to the tenacity and energy of young researchers working hard to prove that they're right. If indeed we profit a lot from the energy and tenacity of young researchers, then it behoves us as a profession to see that they get a fair chance to prove themselves. We therefore include in the report below a suggestion to pay special attention to younger scholars when developing plans to protect research time.

Our visit was well organized and our reception at UiL OTS by professor Frank Wijnen was cordial.

John Nerbonne
Chair of the committee

2. THE REVIEW COMMITTEE AND THE PROCEDURES

2.1. Scope of the review

The review committee has been asked to perform a review of the research in Linguistics at four research institutes (at the universities of Amsterdam, Leiden, Utrecht and Nijmegen), and the Netherlands Graduate School of Linguistics (LOT). This report includes the committee's findings on the Utrecht Institute of Linguistics at Utrecht University (UiL OTS). The findings on the other institutes can be found in separate reports.

In accordance with the Standard Evaluation Protocol 2015 – 2021 (SEP) for research reviews in the Netherlands, the committee was asked to assess, both in quantitative and qualitative terms, the quality, the relevance to society and the viability of the scientific research at UiL OTS (institute level) as well as the strategic targets and the extent to which the unit is equipped to achieve these targets. Furthermore, a qualitative review of the PhD programme, research integrity and diversity was part of the committee's assignment.

In addition, the review includes separate evaluations of UiL OTS' six research groups: (1) Language structure: variation and change; (2) Language, Logic and Information; (3) Linguistic Theory and Language Acquisition; (4) Language and Speech: Processing and Disorders; (5) Language and Education; and (6) Language and Communication. The committee was asked to provide both a quantitative and a qualitative assessment of these programs, in accordance with the SEP criteria. Furthermore, the committee was invited to discuss the relation between these separate programme assessments and the overall evaluation of UiL OTS.

2.2. Composition of the committee

The composition of the committee was as follows:

- Prof. Dr. Ir. J. (John) Nerbonne [chair]
- Prof. Dr. B. (Balthasar) Bickel
- Prof. Dr. A. (Ann) Bradlow
- Prof. Dr. S. (Seana) Coulson
- Prof. Dr. J. (Jane) Grimshaw
- Prof. Dr. A. (Alison) Mackey
- Prof. Dr. W. (Wendy) Sandler

The committee was supported by Dr. Jetje de Groof, who acted as secretary on behalf of QANU.

2.3. Independence

All members of the committee signed a statement of independence to guarantee an unbiased and independent assessment of the quality of Utrecht Institute of Linguistics at Utrecht University. Personal or professional relationships between committee members and the research unit under review were reported and discussed at the start of the site visit amongst committee members. The committee concluded that no specific risk in terms of bias or undue influence existed and that all members were sufficiently independent.

2.4. Data provided to the committee

The committee received the self-evaluation report from the units under review, including all the information required by the SEP.

The committee also received the following documents:

- the Terms of Reference;
- the SEP 2015-2021;
- full lists of publications, as well as lists of five key publications per research unit

The panel also received a list of ways in which the Dutch academic system differs from others, esp. the American. The committee discussed these prior to the site visit in order to avoid misunderstandings.

2.5. Procedures followed by the committee

The committee proceeded according to the SEP. Prior to the first meeting, all committee members independently formulated a preliminary assessment of the units under review based on the written information that was provided prior to the site visit.

The final review is based on both the documentation provided by the institute and the information gathered during the interviews with management and representatives of the research unit during the site visit. The site visits of all institutes mentioned in 2.1. all took place in one week (30 September-5 October 2018). The site visit of UiL OTS took place on 4 October 2018 in Utrecht (see the schedule in Appendix 2).

Preceding the interviews, the committee was briefed by QANU about research reviews according to the SEP. It also discussed the preliminary assessments and decided upon a number of comments and questions. The committee also agreed upon procedural matters and aspects of the review. After the interviews the committee discussed its findings and comments in order to allow the chair to present the preliminary findings and to provide the secretary with argumentation to draft a first version of the review report.

The draft report by committee and secretary was presented to the Utrecht Institute of Linguistics at Utrecht University for factual corrections and comments. In close consultation with the chair and other committee members, the comments were reviewed to draft the final report. The final report was presented to the Board of the University and to the management of the research unit.

The committee used the criteria and categories of the Standard Evaluation Protocol 2015-2021 (SEP). For more information see Appendix 1.

3. LINGUISTICS: GENERAL THEMES AND FINDINGS AT THE NATIONAL LEVEL

Before turning to Utrecht Institute of Linguistics and the evaluation of its research, the committee wishes to make some general remarks based not only on all four research institutes that were visited and evaluated but also on the national research school LOT. This subsection appears in all of the evaluation reports of the institutes that were part of this review.

Dutch linguistics has a sterling reputation internationally. The work is respected and cited, its senior researchers are sought after for important international appointments, and its graduate students can compete throughout the world. We are very impressed by the state of the discipline of linguistics in the Netherlands. We note that high quality sign language research is being conducted at three of the institutes we visited and this widespread recognition of the relevance of this field in the Netherlands is noteworthy.

Against the background of this genuine respect, we note some aspects of the context within which linguistic research is conducted in the Netherlands which may depress its excellent quality over the long term. We discuss only general issues in this section since we attend to the individual institutions in the separate institute sections.

The fundamental reliance on student numbers in funding university study programmes means that distribution of staff tends to follow the decisions of students entering the university. In other words, since universities are motivated to staff programmes that are popular among students, and since staffing decisions inevitably influence not only what is taught but also what is researched, the reliance on student numbers as an indicator of required academic staffing has an impact on research. Entering students are unaware of the frontiers of research, so they will tend to choose subjects based on their experience in secondary schools. Subjects not taught in secondary schools, such as linguistics, are at a distinct disadvantage in this sort of system. While all institutes insisted that once openings in the staff have been approved (due to the needs of instruction), hiring committees *always* seek excellent researchers, it is still rare that a research institute can initiate a hiring procedure based on the need to strengthen specific research areas or the opportunity to take advantage of new developments. Research institutes in other countries enjoy more autonomy. We note that the new NWO requirement that *Vidi* proposals be accompanied by a guarantee of employment (or participation in a tenure track program) is likely to increase the influence of instructional needs on research recruitment.

Three of the four institutes we visited noted heavy instructional demands as a weakness or a threat in their SWOT self-analyses, and concerns about this were spontaneously expressed at every institute the committee visited. Whenever we asked about factors limiting research productivity, the first one mentioned was always the amount of instruction. One researcher sent a copy of the academic calendar at her institute that ran continuously from early Sept. until late in July, with the exception of two weeks off at Christmas. Sabbaticals are rare at all universities and not regular as they are elsewhere (e.g., in Germany or the US). Several people complained of being in the classroom more than ten hours/week, some even more, and many people (N.B. not those in management, however) said that they did not understand how teaching responsibilities were determined. Without attaching great importance to the anecdotal reports, our impression is that Dutch researchers may be at a disadvantage in comparison to researchers internationally in being required to devote a large part of their time to instruction and in having little chance to devote concentrated periods to research. We would therefore suggest that research institute directors take this very general dissatisfaction seriously. First, they could decide to be proactive in explicitly accepting the task of protecting the research time of institute members, and second, it is advisable for all faculty members to be aware of how instructional demands on individuals are determined.

The committee also learned of the consequences of the so-called '*Flexwet*' for early career researchers, such as postdocs, who are limited to a small number of non-permanent positions before their contracts must become permanent. Various researchers informed us that the usual decisions in such cases do not result in permanent contracts, but rather discontinuation of the researchers' contracts. In the case of postdocs 3-5 years after the PhD, discontinuation could threaten their careers. The apparent motivation is to force the universities to make a decision about the permanent employment of a researcher earlier rather than later, but in the case of postdocs 3-5 years after their PhDs, there has already been a clear commitment on the part of the postdoc to a career involving research. Forbidding permanent contracts for such individuals is harsh on them and may depress research quality.

While university researchers could once aim to pursue long-term research lines, this has become less attractive as the universities rely more and more on NWO and other funding agencies for financing PhD candidates and postdocs via projects. This change, which was triggered by a deliberate policy shift toward competitive procedures for a larger share of research monies, was justified originally as a way to channel more research energy to the best scientists, but it has also had the perhaps unintended effect of making a lot of research more project driven and less compatible with longer-term strategies. This impacts the better institutes and programmes more than others, and it indirectly influences hiring practices, collaborations, and the training of young researchers. The committee suggests that research institutes and university administrators monitor this development lest the tendencies we already see be aggravated.

Finally, the committee was initially apprehensive when it learned about the increasing importance attached to the societal relevance of research. Concerns were expressed about theoretical work being crowded out, about the danger of commercial influence, and about how successful societal outreach was likely to be. However, during the course of our evaluation visits, we encountered a number of projects and research lines with clearly applied goals where the scientific content was eminent and where those conducting the research were enthusiastic about the applied, societally relevant aspects of the work. We also reviewed a large number of projects dedicated to public outreach, usually popularizations of research, which the scientists involved were excited about, and which we, too, are positive about. We understand that public understanding and appreciation of scientific research contribute in important ways to its support, and to attracting good students. We therefore voice our remaining apprehension even more cautiously, noting only that not all scientific work lends itself to short-term application or to popularization efforts. The demand for societal relevance should therefore not be aimed at each project, but strategically, at the institute as a whole.

4. DESCRIPTION OF THE UTRECHT INSTITUTE OF LINGUISTICS OTS

Through the preparatory documents and the site visit, the committee received a clear view of the governance, mission, strategy and management of the Utrecht Institute of Linguistics OTS (UiL OTS). The section below, which provides a description of UiL OTS, is based on the information provided in the self-evaluation report. The assessment of UiL OTS by the committee follows in section 5 of this report.

4.1. Organisational context and governance

UiL OTS (28.0 FTE tenured staff in 2017) is a division of the Department of Languages, Literature, and Communication in the Faculty of Humanities. The Institute's director bears overall responsibility for the Institute's research programme and policies, its PhD program, and its research facilities. Final responsibility in all matters regarding budgets and personnel lies with the department head. The director is supported by the research coordinator, and a secretarial staff. The leaders of the six research groups constitute the Institute's board (research committee; RC). UiL OTS also has an external advisory board.

Since the last research review, UiL OTS has been organized into six research groups, each directed by a programme leader: (1) Language structure: variation and change, (2) Language, logic and information, (3) Linguistic theory and language acquisition, (4) Language and speech: processing and disorders, (5) Language and education, (6) Language and communication. They are organized around themes or domains, rather than among disciplinary lines, and are the meeting place for researchers with different theoretical perspectives and approaches. The groups are relatively autonomous and establish their own research agendas and strategies within the overarching mission of UiL OTS. There are also cross-group initiatives, as well as interdisciplinary collaborations at the local, national, and international levels.

4.2. Mission and strategy

UiL-OTS' mission is to further our knowledge about language as a product of the human mind/brain and its use in the social domain. This requires bringing together a range of subdisciplinary perspectives and actively promoting their interaction. UiL OTS also stimulates innovation through interdisciplinary collaborations. Further avenues to innovation are the development and use of new tools, the juxtaposition of theoretical perspectives, using new methodologies, and connecting theory-driven with practice-oriented research. Another ambition is to make linguistic research relevant to other disciplines, for instance through the creation and dissemination of tools and datasets. UiL OTS has four societal domains to which its research efforts relate: multilingualism, effective communication, language learning, and language disorders. It also aspires to inform the general public about progress in linguistics and its applications.

4.3. Funding, talent management and support

Table C in Appendix 3 indicates that research time in the Institute as a whole (expressed in full-time equivalents) has gradually declined over the years, from 59 fte in 2012 to 42 fte in 2017. The figures also indicate that the compartments of research time funded by streams 1 and 3 have increased, while the stream 2 compartment has decreased (55%>22%). Currently, most tenured researchers spend 60-70% of their time on teaching.

UiL OTS maintains facilities for experimental research, including dedicated laboratories for behavioural experiments with babies and young children, speech science labs, eye-tracking labs, and facilities for EEG and registration of other bio-signals. Structural funding for lab equipment and support staff is supplied by the faculty board. The faculty's Research Support Office (RSO) assists researchers in finding funding opportunities and drafting of grant proposals. The faculty's controllers (together with the research coordinator) arrange and monitor all externally funded research projects' budgetary matters.

5. ASSESSMENT OF THE UTRECHT INSTITUTE OF LINGUISTICS OTS – INSTITUTE LEVEL

In this section, the committee evaluates, both quantitatively and qualitatively, the performance of UiL OTS on the three criteria of research quality, relevance to society and viability. In addition, the committee gives its qualitative evaluation of the PhD programme, research integrity, and diversity at UiL OTS, as stipulated in the Terms of Reference (see 2.1.). An overview of the committee's recommendations is given in section 6 of this report.

5.1. Research quality

The Utrecht Institute of Linguistics (UiL OTS) is a well-known center of research and teaching on language in both its cognitive and social manifestations. The Institute has chosen to define its research mission and vision in terms of themes or domains rather than in terms of the traditional sub-disciplines of linguistics. While the traditional sub-disciplines delineate different 'levels' of linguistic structure (viz. phonetics, phonology, morphology, syntax, semantics, pragmatics) and/or different domains of language function (e.g. sociolinguistics, psycholinguistics, language acquisition), the research groups of the UiL OTS bring together researchers whose interests and areas of expertise cut across these traditional sub-disciplinary lines. This organizational principle is fundamental to the articulation of the strategic goals of the Institute. Specifically, the Institute's ambitions and strategy emphasize innovation and collaboration, both of which are facilitated by the thematically organized research programmes. The committee recognizes that, on the one hand, the overall institute organization in terms of strategic themes has been successful in creating an interdisciplinary environment with substantial fluidity and interaction across the thematically-organized research groups. On the other hand, the information in the self-evaluation report that research programmes reflect themes rather than sub-disciplines, and the endorsement during the site visit of the 'fluidity' of the organization suggested to the committee that some programmes may not continue for long. The committee nonetheless did its best to judge the 'viability' of the programmes (see below, section 7).

In terms of research products for peers, the data provided in Appendix B of the self-evaluation report paint an encouraging picture of productivity in overall research accomplishments. Specifically, over the six-year period covered by this review (2012-2017), there has been a steady stream of approximately 2.3 journal publications per year per FTE of research staff. Importantly, these publications appear predominantly in top-tier venues and are exerting influence through citations (see section 7 of this report – assessment at the group level – for more on citations). Over this same period, we see a range of 0.5 invited talks per year per FTE of research staff (i.e. an average of 1 invited talk every-other-year), and an average of 2.7 refereed conference contributions (papers, posters, and proceedings combined) per year per FTE of research staff.¹ In addition, the Institute is producing an average of 0.4 PhD theses per year per tenured faculty member FTE.² Overall, this rate of research productivity is in line with expectations for a very well-regarded center of research in linguistics.

The key publications, which were presented for each research group separately rather than for the Institute as a whole, are primarily in high quality journals (top 25%). The journals included in these lists range from more general cognitive psychology journals (e.g. *Cognition*, *Journal of Memory and Language*, and *Frontiers in Psychology*) to applied science/clinical journals (e.g. *Journal of Communication Disorders*, *Journal of Writing Research*, and *International Journal of Bilingual Education and Bilingualism*) to core linguistics journals (e.g. *Linguistic Inquiry*, *Semantics and Pragmatics*, and *Language and Speech*). The key publications also include a chapter in the important *The Cambridge Handbook of Psycholinguistics*. This range of outlets with a preponderance of high

¹ The committee included tenured and non-tenured staff in the research staff totals, but no PhD candidates (see table A, Appendix 3).

² For the calculation of PhDs per FTE the committee only took into account tenured staff, not non-tenured staff (see table A, Appendix 3).

quality peer reviewed journals (23/30 in these key publications, over 75%) indicates a strong institute-wide value on pursuit of research excellence within the international system of journal-based peer review. Nevertheless, the committee is also of the opinion as it reviews the complete list of publications that the institute might further encourage publication in even more important journals.

In addition to publications and presentations in academically oriented outlets, the Institute's researchers are active in contributing data sets, digital infrastructure, and new tools for broad distribution to peers. These include a rich collection of databases covering many languages (including, but not limited to, Dutch, Frisian, Afrikaans, Italian, and English), various types of speech and language data (e.g. audio and text files), and a variety of target audiences (e.g. experimentalists, computational analysts, educators, and clinicians). Many of these products (total of 48 listed in Appendix G of the self-evaluation report) serve both as databases to support current research as well as digital archives for the preservation of language data. While the bulk of these databases, tools, and elements of digital research infrastructures were developed by two of the larger research groups, Group 1 (Language Structure: Variation and Change) and Group 2 (Language, Logic and Information), all groups contribute to this effort. Because the development and maintenance of these digital resources typically require a team effort, this kind of work is entirely consistent with the Institute's overarching strategic goals of innovation and collaboration within the Institute as well as with colleagues across the world. Through the central roles of institute professors in the broad digital infrastructure developments of the CLARIN and CLARIAH projects, UiL OTS is exerting a very strong influence on the data revolution as it touches upon the broad field of Linguistics. We add only that more systematic reports on actual use of these products for peers would be insightful (see section 6, Recommendations).

Peer recognition of institute researchers has been generous (as evidenced by the lists provided in Appendices I, J, and K of the self-evaluation report). In particular, Appendix I lists a total of 33 individual institute researchers who have together assumed 60 editorships of journals and editorial board memberships. Relative to the number of tenured faculty members listed in Table 3a (60-70 for 2012-2017), this is a high rate of professional contribution. Moreover, many of the top-tier journals in the field are included in this list of editorship. A few noteworthy examples are *Language, Linguistic Inquiry, Journal of Semantics, Linguistics and Philosophy, Natural Language and Linguistic Theory, Semantics and Pragmatics, Journal of Phonetics, Laboratory Phonology, Phonology, Journal of Neurolinguistics, Studies in Second Language Acquisition, Journal of Experimental Psychology: General*, and *Journal of Memory and Language*.

Finally, the committee took note of the fact that the research time funded by streams 1 and 3 has increased, while the stream 2 compartment has decreased. Since the stream 3 compartment includes the very competitive ERC funding, we do not diagnose the decrease in stream 2 funding as indicating a serious drop in quality. The institute research staff members are quite successful in obtaining grant support for their research. Appendix H (self-evaluation report) lists a total of 83 grant awards totaling 21 million Euro over the period of 2012-2017. These awards are distributed across all six research groups, even while there is some notable variation across the groups (see also section 7 of this report). Specifically, Group 2 (Language, Logic and Information) seems to be particularly successful in attracting sizeable grants (total= ~8.5 million Euro across all funding streams) and Group 5 (Language and Education) seems to have attracted a very high number of grants (n=24 across all funding streams). In contrast, Group 3 (Linguistic Theory and Language Acquisition), which is strong in publications, has been less successful in acquiring grant funds (<.5 million Euro in fewer grants (n=5)).

In summary, UiL OTS conducts very good, internationally recognized research that is regularly accepted in the best linguistics journals, i.e., the venues recording the results of the field which are most respected and which have high impact factors. UiL OTS's quality is also recognized by national and international funding agencies, where its members have demonstrated success. UiL OTS researchers are regularly contributing important data sets, tools, and (unusually) infrastructure

capacity to facilitate linguistic research internationally. UiL OTS members are active professionally in influential organizations, and their PhD students are sought after as postdocs and assistant professors.

5.2. Relevance to society

The Institute presents its societal relevance in four main domains, (1) managing multilingualism; (2) promoting transparent and effective communication; (3) creating optimal conditions for language learning; and (4) rationalizing diagnostics and treatment of language disorders. The research groups taken together are excellently positioned to contribute to these domains, and indeed each group is active in at least one of the domains. Based on the cooperative projects listed in Appendix M of the self-evaluation report and the marks of recognition by societal groups provided in Appendix N, it appears that the Institute has been extremely successful in presenting itself to society-at-large as a partner and resource for language related matters. It is noteworthy that institute researchers are participating in activities related to providing a European infrastructure for speech and language technology, migration policy (e.g. by participating in a seminar on the evaluation of education programmes for newly arrived migrant children in primary and secondary education), education policy (e.g. by serving as an advisor for organizations for development of language teaching curricula), and government communication (e.g. by providing expertise for a Dutch government committee responsible for referenda). Appendix O of the self-evaluation report moreover lists the numerous public outreach efforts the Institute's groups have been involved in over the review period (see also section 7 of this report). In terms of outreach and visibility, we suggest that, as excellent as the institute's research products and other accomplishments are, these might be even more vigorously promoted to a broader audience. Also, as with use of research products by peers, more systematic reports on actual use and impact of the Institute's societally relevant activities would be useful.

Overall, the Institute takes a constructive and effective approach to connecting basic research with matters of interest and importance to societal partners. The Institute builds two-way bridges between the scientific questions that drive its core activities and societal applications with the ultimate goal of cross-fertilization for the benefit of both science- and society-driven questions. This strategy and general mindset seems to permeate the Institute's work and have led to excellent relations with their societal partners. Moreover, through deep involvement with the university's focus areas, most notably under the themes of 'dynamics of youth' and 'institutions for an open society,' the Institute is able to take advantage of this broad-based catalyst for collaborations outside the university.

In summary, UiL OTS makes an outstanding contribution to society through the high quantity and quality of the contributions to society, including its advice to policy makers, its collaborative work with industry and government agencies, and its many outreach activities. The committee is convinced of the potential for some of these research products to contribute to programmes to prevent serious language disorders in childhood and adolescence. These excellent research products and accomplishments have firmly established the Institute's societal relevance. The committee acknowledges the great potential of these initiatives in further establishing the Institute's visibility through new outreach projects, if more vigorously promoted to a broader audience. This is why it warmly supports that the Institute further disseminates its research.

5.3. Viability

The Institute's organizational structure appears to be quite 'lean' (see section 4.1. of this report). The management and leadership is strong with an effective director and a well-functioning governance structure. There are several means of ensuring that energy (research time and funds) are channelled into the areas that will benefit the Institute most (see below), and the director and dean could point to concrete examples where the interests of research had been able to seize the initiative in attracting excellent researchers to Utrecht. Moreover, the university-wide strategic themes provide several viability-enhancing mechanisms by, for example, bringing institute staff in contact with colleagues from other university units, providing access to considerable seed funds from

university sources (each theme receives €6,000,000 over a three-year period), and more generally by serving as catalysts for interdisciplinary research.

The Institute has convincingly demonstrated its viability through the impressive success it has achieved in acquiring funds to support its research, surely one of the best indicators of the chance for future success. Grants management is centrally supported through the faculty's Research Support Office, which likewise enhances the chance for success in the future.

The research facilities are extensive and very well supported financially by a substantial committed annual budget of over €400K per year. The laboratories, which function as an integrated shared resource, include facilities for testing various participant populations (babies, young children, and adults with varying language backgrounds) with a wide range of testing paradigms (speech testing and processing, eye-tracking, EEG and other bio-signals). Instruction and maintenance of these facilities is supported by a dedicated and well-trained staff. Similarly, continued investment of time and money into these critical aspects of the Institute's work is essential in order to ensure continuation of its research eminence and general viability. The committee was assured during the site visit that the ongoing commitment to the linguistics laboratories was definite.

While the facilities and governance structures necessary to support a world-class institute of linguistics of the size and scope of UiL OTS are in place with a strong footing, the entire operation seems to be slightly constrained by three main factors as identified by the Institute. We discuss these even while indicating that we do not agree that they constitute serious threats to the institute's viability. The first element is the high teaching load of the tenured faculty (required to spend 60-70% effort on teaching at BA or MA levels, also noted as a 'threat' in the OTS SWOT analysis; see Section 3 of this report as well). With respect to this point, the Faculty has adopted a clear plan that seeks explicitly to increase research time. Specifically, many researchers are able to buy out teaching time with grant funds (70% of the staff members have 0.1 fte extra), teaching schedules are arranged such that researchers can enjoy regular teaching-free blocks, and teaching schedules may be structured in a manner that allows for significant sabbatical periods. The opportunity to reserve concentrated blocks of time for research is essential to productivity in many subdisciplines. The second constraining factor which UiL OTS notes is the declining funding from the national competition stream (stream 2), which the evaluation panel sees as compensated for in part by success in similar funding schemes at the European level. The third factor is the limited autonomy of the Institute within the department-based governance structure, which has not, however, stood in the way of significant initiatives at the institute level. In conclusion, the committee is of the opinion that the Institute has explored and implemented creative solutions to these constraints whenever necessary, and is confident its excellent leadership will continue to do so in the future to continue assuring the Institute's viability.

As the Institute has coalesced around the six current research groups (down from 14 groups in the previous reporting period), a greater sense of shared purpose has taken hold. The move from 14 to 6 groups over the past 6 years could and should presumably provide a model for continuous updating and re-envisioning of the Institute's organizational structure so that the laudable goals of cross-pollination across sub-disciplines, interdisciplinary collaboration, and research-society linking can continue to function as guiding principles. Moreover, the Institute's strategic emphasis on innovation and collaboration should introduce flexibility and dynamism into the overall institute structure.

In summary, UiL OTS is excellently equipped for the future. The committee finds the Institute's mission and strategy viable (see also section 5.1.). Its lean organizational structure, strong institutional embedding, first-rate leadership and high-quality resources support the committee's assessment that the Institute is excellently equipped to achieve its strategic targets. The Institute's reflective leadership is more than aware of the need to continuously scrutinize opportunities in pure and applied research. The faculty and university accord the UiL OTS some autonomy in attracting talent, and they are explicit in encouraging and funding research foci in which UiL OTS can and will participate. The Institute is already successful in acquiring grants, is financially sound, has well-supported facilities, and there are plans to increase the research time, especially of younger staff members, which the committee applauds.

5.4. PhD programme

The self-evaluation report indicates that most PhD candidates are successful: 80% of the candidates in the cohorts 2009-2013 have defended or are ready to defend. There is, however, a tendency to overrun the nominal PhD project duration: only 38% of the candidates in the cohorts of 2009-2013 completed the PhD in five years or less. The committee values that the Institute now works with a progress monitoring system, with a fixed timeline in the first 13 months of the PhD. After a go/no-go meeting at 13 months, PhD candidates are required to submit annual progress reports for assessment by the Research Committee, and to take part in an annual 'results and assessment' interview. The committee commends UiL OTS for improvement in time-to-degree periods over the review period.

A vibrant PhD programme is clearly critical for any world-class research institute, which OTS clearly (and, in the eyes of the committee, realistically) aspires to be, and UiL OTS has a well-established record of excellent doctoral level training. As shown in Table D (Appendix 3 in this report), however, the number of PhD students over the six year reporting period (2012-2017) has dropped from 67 in 2012 to 45 in 2017, following a national trend in the Dutch system. This trend is noteworthy and should be closely monitored, especially as the research themes and methodologies of the field undergo revision and expansion in ways that may have a deep and lasting impact on PhD training. Specifically, in keeping with the Institute's strategies of innovation and collaboration, the increase in team-based research would probably benefit from a larger cohort of PhD students. However, this approach needs to be balanced with concerns for adequate guidance and mentorship (i.e. tenure line faculty should not be over-taxed with advising) and for the quality of student preparation prior to entering the program. In addition, while team-based collaborative research projects are increasingly central to linguistic research, we should not lose sight of the critical importance and value of the Institute's strength in theoretical linguistics, which proceeds from a different research and mentorship model than experimental and computationally intensive work. Other factors that need to be carefully considered when attempting to 'right size' the PhD programme are time-to-degree and placement/employment opportunities upon receipt of the PhD degree. Funding is, of course, also critical for the success of any PhD programme.

In addition to their research, PhD candidates are expected to take part in graduate courses offered by LOT (or another graduate school, e.g. ICO), as agreed with their advisors (and stated in the training and supervision plan). Participation in the training programmes offered by GSH is voluntary (but recommended). PhD candidates funded by NWO are also required to engage in teaching activities; these may range from teaching undergraduate classes to supervision of master students. Taking courses and teaching together should not exceed 10% of the PhD candidate's time. PhD students expressed their appreciation of the training offered.

Overall, the UiL OTS PhD programme is thriving: the students expressed satisfaction with their supervision, with their preparation for the job market, and with the way they are embedded in the Institute's research groups. They are also positive about the PhD coach and their courses. A minor concern was raised about timing and extent of communication about upcoming courses and activities available to PhD students, however it was acknowledged that this matter has been/is being addressed. Also, while it's clear that many of the Institute's PhDs have obtained work involving research, it would be useful to see this tracked over a longer period of time (see section 6, Recommendations).

5.5. Research integrity

The self-evaluation report describes how research integrity is embedded in Utrecht University's Code of Conduct for Scrupulous Academic Practice and Integrity. Besides the formal regulations in place, the Faculty aims to stimulate a culture of discussion and reflection on questions of integrity. The Graduate School of Humanities offers annual seminars for PhD candidates on research integrity. Furthermore, when graduating, every PhD candidate vows to uphold the scientific standard of research integrity. UiL-OTS has an ethical review board and has an ethical review procedure for

research with human informants. With regard to research data management, the Faculty and the University Library recently have taken the first steps in the development of an online tool to aid researchers in the composition of their data management plans and to provide training and instructions on proper data management. UiL OTS has recently begun raising awareness of the principles and practices of Open Science, and stimulating its affiliates to adopt these.

The Institute recognizes that they have been slightly late in their attention to issues of data management and sharing, nevertheless accepting that these matters should be incorporated into the broader effort towards adherence to high standards of research integrity, which appears to be quickly gaining traction. The committee urges increased vigilance with respect to these matters.

5.6. Diversity

UiL OTS reports that between 2008 and 2018, the percentage of female associate professors (UHD's) has risen from 35% to 51%, and the percentage of female full professors has risen from 18% to 30%, or a little less than one third. Full professors are predominantly male and elderly. In lower ranks, the gender distribution is more balanced. The majority of PhD candidates, however, are female. UiL OTS has one full professor and one UD with a non-Western background (China and India, respectively). The largest groups of non-Dutch PhD candidates currently are from China and Italy.

Overall, these demographic shifts suggest that the research institute is open to acceptance of diverse perspectives in its academic setting.

5.7. Conclusion

Overall, all indicators point to a research environment that is consistently producing high quality research products with a high degree of international recognition. The organization of the Institute into thematically-organized groups is effective in creating an environment that supports the strategic goals of innovation and collaboration. This approach is consistent with current world-wide trends in the field of Linguistics where there is increasing emphasis on multi-methods approaches that strike a healthy balance between development of linguistic theory, empirical experimentation, and computational analysis and modeling. A broad range of activities is being developed in order to optimize the societal relevance of the research, and the Institute takes a constructive and effective approach to connecting basic research with matters of interest and importance to societal partners. Finally, the management and leadership of the Institute is efficient, effective, and extremely high functioning. It makes responsible strategic decisions, and has a realistic yet ambitious vision for future development.

5.8. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standard in the field of linguistics, the committee comes to the following quantitative assessments:

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

6. RECOMMENDATIONS FOR THE UTRECHT INSTITUTE OF LINGUISTICS OTS

The committee strongly supports the management, structure, and achievements of UiL OTS. Nevertheless, it has the following recommendations:

- Emphasize publication in top-tier refereed journals with the explicit goal of increasing the number of articles in top journals.
- Further promote dissemination of institute research to a broader audience (i.e. beyond scientific and specialist-oriented publications), perhaps together with societal partners with whom interesting and highly valuable applied work is being conducted.
- Track whether and how products intended for use by peers or by the general public are used and how popular they are. The range of uses is too diverse to do this in a uniform way, which means different metrics would need to be used to gauge the products' use and impact over time.
- Continue to protect research time of all staff members by continuing the policies of grant-based course buyouts, sabbaticals, and inclusion of teaching-free blocks in course scheduling. Pay special attention to younger staff.
- Adopt an explicit and forward-looking approach to improved data management, particularly as it relates to and supports open access research.
- Closely monitor the drop in the number of PhD students.
- Improve communication on courses and activities to PhD students.
- Track PhD candidates' career trajectory for a longer time and more systematically after they have finished their PhD.
- Continue to strive for a diverse faculty of excellent quality.

7. ASSESSMENT OF THE UTRECHT INSTITUTE OF LINGUISTICS OTS – GROUP LEVEL

In this section, the committee evaluates, both quantitatively and qualitatively, the performance of UiL OTS' six research groups on the three criteria of research quality, relevance to society and viability. As we noted in the general remarks on UiL OTS, the institute emphasizes that the groups presented here are somewhat fluid.

7.1. Language structure: variation and change

7.1.1. Profile

The Language structure: Variation and change group (LVC, 7.0 FTE tenured research staff in 2017) studies language variation and change from (a combination of) two perspectives: (i) formal linguistics: the encoding of linguistic diversity in the cognitive system that generates language; and (ii) sociolinguistics and historical linguistics: the impact of social context and language contact. The group wants to make a solid contribution to the study of LVC, initiate innovative, interdisciplinary research on LVC, and impact societal policies and practices concerning multilingualism. Its strategy is to a) sustain and expand our knowledge on LVC, b) safeguard the group's international recognition by conducting both disciplinary and interdisciplinary research, c) to apply for funding in order to secure this, and d) develop products for professionals.

7.1.2 Research quality

This group includes both specialists in grammar theory, studying language structure, as well as variationists, focusing on how languages differ and the social and historical distributions of variation. This is an unusual, but the committee thinks, fortunate combination with great potential for innovative research. The group is ambitious in wishing to incorporate a more refined view of structure into variation and change studies. It is clear that this has been a concern in variation and change studies for a long time, perhaps dating to Weinreich's 'Is structural dialectology possible?', and certainly including Labov's demonstrations of the importance of structural variables in determining the distribution of variation, but it is just as clear that the Utrecht group wishes to insert a great deal more structural expertise into their work on variation and change, a decidedly non-trivial undertaking. The evaluation committee was greatly impressed by the group's remarks on needing to examine various models and also by a clear sense of genuine learning from each other. The integrative, cross-tradition approach is outstanding and could serve as a role model for other groups.

LVC is clearly an excellent group based on publication records, where we note that they published 86 journal articles over the review period (equalling 14.3 refereed journal articles per year, or 2.0 articles per FTE research staff per year).³ One article appeared in the high impact general journal *Proceedings of the National Academy of Sciences*, and there are a good many articles in top specialist journals such as *Natural Language and Linguistic Theory*, *Linguistic Inquiry*, *Lingua*, *Diachronica*, *Brain and Language*, *Theoretical Linguistics*, *Trends in Cognitive Sciences*, *Frontiers in Psychology*, *Glossa*, and *Cognition*. Some of these journals published several articles by members of the group. One book listed as a 'key publication' during this period has already been cited 25 times. Besides peer-reviewed journal articles, the LVC group output also included 88 book chapters, 10 books, and 144 refereed conference papers.

LVC has been highly successful in acquiring grants – nearly €4 million in total during the reporting period. The bulk of this support has come from NWO and ERC, both very selective funding agencies, so we regard this success as a further sign of the group's world-class status.

The group has also been unusually successful in producing apps, other software and linguistic databases, which LVC members have contributed in unusual number (Appendix G of the self-

³ The committee included tenured and non-tenured staff in the research staff totals, but no PhD candidates (see table A, Appendix 3).

evaluation report). As peers, the committee is aware of the important potential impact these products have on the linguistics research community worldwide. Nevertheless, more detailed reports on the actual use of these products would have been helpful (see also section 5.1. and 6 of this report). It is also very impressive that 19 PhD dissertations were defended in this group during the evaluation period, equalling 3.4 defended PhDs per tenured staff member.⁴ Graduates appear to be finding research-related positions.

LVC members have been honored by prizes by AVT/Anéla for the best linguistics dissertation in the Netherlands, twice by the *Maatschappij der Nederlandse Letterkunde*, and by the University of Wisconsin with an honorary research fellowship. They are also highly active professionally, serving on the editorial boards of 17 journals and book series and 20 advisory committees. These range from recruitment committees for chairs, memberships on committees charged with reviewing ethical standards, and membership on the advisory boards of research institutes.

7.1.3. Relevance to society

LVC staff have been especially active in advisory panels and writing advisory reports on language policy in migration, multilingual and educational settings, where LVC is a clear source of expertise, and their contributions have been recognized by important societal groups. They have contributed to a KNAW advisory document on multilingualism, have been active advising the government on the language of instruction in the schools of the Antilles, and have given advice to the EU on language policy. The work in advising various non-academic parties has been recognized in memberships on governing boards for such parties. The committee fully agrees with the statement in the self-evaluation report's SWOT that the ongoing societal debates and issues on multilingualism and language change are an opportunity for the group, and recommends that the group actively pursue this opportunity in years to come.

In addition to serving in advisory capacities, they have contributed to the LUCIDE City Reports and Toolkits, providing best practice regarding the implementation of multilingualism. They teamed up with societal partners to develop several tools for educational settings, e.g. a series of textbooks for Dutch as a foreign language and an app on the influence of Dutch for teachers teaching Dutch as a second language. Also, they helped rethinking Dutch education in high school in the *Meesterschapsteams* Dutch.

Finally, the group has been very active in reaching out to the public to stimulate interest in linguistic research, organizing and working at events for the general public such as DRONGO, and in initiating and maintaining websites, Facebook pages, magazine columns, and columns in *Neerlandistiek.nl*. They have published two popular-science books during the evaluation period, and have appeared on local, national and international broadcasts on linguistic issues. This work is very valuable and definitely deserves continuation.

The committee notes that, as mentioned in sections 5.2. and 6 of this report, it would have been useful to learn more about the actual impact of the societal activities of the group.

⁴ For the calculation of PhDs per FTE the committee only took into account tenured staff, not non-tenured staff (see table A, Appendix 3).

7.1.4 Viability

LVC members have amply proven their ability to secure external funding, one certain indication of viability, as are LVC's sensible remarks on strategy. The evaluation committee is highly positive about the leadership the group enjoys. LVC's SWOT analysis is rightfully proud of its achievements, e.g. in securing funding for PhD positions, and candid about potential problems, e.g., relying on temporary staff such as the PhD candidates for some of the productivity. This candid self-assessment, together with the group's obvious strength and excellent leadership inspires trust in the viability of the group, even facing times as difficult as those they sketch. The group's opportunity to participate in two of the university's strategic themes, the dynamics of youth and institutions for open societies, is a further reason for optimism. The presence of two rather different sorts of research in this group is correctly listed first among LVC's strengths, and the committee is confident it will continue to offer opportunities in the future.

One remark is that although the group is clearly excellent, most of the researchers involved are experts in language structure. There is less senior expertise of international stature on variation and change. In order to realize its ambitions in this direction (reflected in the group's name), historical linguistics, sociolinguistics, and dialectology ought to be strengthened. Another challenge we perceive is how the group will cope in the future with the demands on data science and quantitative methods that keep increasing in historical and dialectological linguistics worldwide. During the site visit it became apparent that the group fully understands these challenges and recognizes their importance. The committee has full confidence in the group's leadership ability to take the measures necessary to ensure that this essential issue for the long-term viability of the group is taken care of.

7.1.5. Conclusion

This is a world-class group with respect to all of the evaluation criteria. The amount and quality of research productivity of LVC is outstanding, and in line with expectations for a world-leading center of research in linguistics. The group makes an outstanding contribution to society, as is evidenced by its contribution to important advisory reports, to research products for societal target groups, and their excellent outreach activities. LVC is excellently equipped for the future with its sensible, future-proof strategy, its ability to secure external funding and its excellent leadership.

7.1.6. Recommendations

The committee strongly supports the excellent achievements of LVC. Nevertheless, it has the following recommendations:

- Strengthen sociolinguistics, historical linguistics and dialectology, in order for the group to fully realize its ambitions in the direction of linking grammatical theory to language variation and change.
- Strengthen the expertise in modern data science and quantitative methods.
- Publicize its vision on its unusual combination of sub-disciplinary traditions, as this is an interesting exercise from which other groups could profit.
- Seize the opportunity to engage in ongoing societal debates and issues on multilingualism and language change.

7.1.7. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standard in the field of linguistics, the committee comes to the following quantitative assessments:

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

7.2. Assessment of Language, Logic and Information

7.2.1. Profile

The Language, Logic and Information group (LLI, 5.9 FTE tenured staff in 2017) studies the linguistic representation of information, bringing together the subfields of semantics and computational linguistics, with applications in human language technology (HLT) and cross-overs with AI and cognitive science. Understanding information encoding in natural language is assumed to contribute to effective applications of HLT, and to better frameworks for the processing of language as social and cultural data. The group's strategy is to take a computational and logical perspective, and to concentrate on two themes: lexical meaning, and the meaning/ use interface. LLI integrates grammatical (meaning) and extra-grammatical (use; context) approaches to natural language understanding. The group's research yields linguistic resources and tools supporting language technology, which are embedded in international and national research infrastructures, as well as results that contribute to the theory of linguistic representation.

7.2.2 Research quality

It is very impressive that LLI wishes to combine very theoretical, cutting edge work in semantic theory with computational linguistics in a variety of forms, some clearly theoretically inspired (e.g., by categorial grammar) and others with a focus on developing tools for a range of linguistic disciplines. LLI includes both logicians studying semantics and pragmatics and computational linguists with a variety of specializations. It encompasses syntax/semantics modeling and computational infrastructure, for linguistics and more broadly, for all scholarly disciplines in which speech and text analysis play a role. The committee appreciates that, as a result, the members of this group are unusually well-positioned to benefit from one another's work.

The LLI group is outstanding in research quality starting with its very strong publication record. We note that they published 47 journal articles over the review period (equalling 7.8 refereed journal articles per year, or 1.0 articles per FTE research staff per year).⁵ Two publications from the still recent reporting period, a paper on semantics and word order published in *Cognition* paper (2014), and another on sentiment analysis, published in the *Comm. of the ACM* (2015) (both noted in the list with key publications), already have 44 and 32 citations, respectively. There are many more publications in very selective venues, including top journals in theoretical linguistics, such as *Linguistics and Philosophy*, *Semantics and Pragmatics* and *Linguistic Inquiry*. The impressive list of products for peers include software packages coordinated by this group which are used very widely not just in the Netherlands but throughout Europe (CLARIN and CLARIAH). In addition, several smaller-scale products of this group's work have gone on to find significant use – *inter alia* TST, but also TDS and *Taalportaal* (Appendix G of the self- evaluation report). As noted in sections 5.1. and 6 of this report, more information tracking actual use of these products would be useful.

Members of this group are highly active professionally. For example, they frequently serve on editorial boards and as editors-in-chief of important major journals; they have frequently been selected by their peers to serve on important boards of academies, research institutes, research networks, special-purpose scientific organizations and funding agencies. The group has been phenomenally successful in acquiring grants for its work, both from NWO (€3.4 Mil.) but also from other very competitive funders such as the European Research Council (€4.4 Mil.), demonstrating quality and standing in a very demanding theater. 9 PhD dissertations were defended in this group during the evaluation period, equalling 1.6 per tenured staff member,⁶ which is very good. We should expect to see that rise in the future given the many projects which fund PhD research. Graduates all appear to be finding research-related positions.

⁵ The committee included tenured and non-tenured staff in the research staff totals, but not PhD candidates (see table A, Appendix 3).

⁶ For the calculation of PhDs per FTE the committee only took into account tenured staff, not non-tenured staff (see table A, Appendix 3).

7.2.3. Relevance to society

Due to the practical importance of language and speech technology, and due to the specific difficulties of semantics in natural language understanding, this group's research is eminently relevant to a broad range of social and commercial activities.

LLI researchers have been very active in advising on language technology policies (Appendices L, M of the self-evaluation report) and in advising governmental organizations on 'Multilingualism' (§3.2). They are clearly a key source of advice in crucial areas such as stimulating data sharing (ELRC) and deploying technology in education (GreTEL system; CLARIN-NL and CLARIAH), which is evident from the impressive list of products provided in Appendices L and M of the self-evaluation report. Section 3.2 of the self-evaluation report lists further activities from this group linked to societal impact. The Names Database that this group produced is mentioned in Appendix O on public outreach. It is an enormously popular collection (> 11 Mi. pageviews in 2017), the impact of which cannot be underestimated.

The group's contributions have also been recognized by important societal groups, as is evidenced by the fact that LLI members' assuming important positions in civil society board. Finally, it became clear to the committee during the site visit that the group has also experimented in public outreach through YouTube. We encourage further experimentation in popularizing the important work of this group.

Due to the societal importance of language and speech technology the committee encourages LLI to continue to devote attention to how its outstanding research might be applied to improve products and services outside academia. The committee welcomes that the increased collaboration with Artificial Intelligence in Utrecht may lead to further interesting opportunities for collaboration with industry.

The committee notes that, as mentioned in sections 5.2. and 6 of this report, it would have been useful to learn more about the actual impact of the societal activities of the group.

7.2.4 Viability

The researchers in LLI have certainly proven their ability to secure external funding, a key factor in viability. LLI is excellently positioned to make major contributions to the growing area deploying computational methods in linguistic research, where they can expect to find many opportunities for funding, training and research. Also, their alignment with the university's strategic focus area Artificial Intelligence has already strengthened research collaboration within the university, which bodes well for future earning capacity.

LLI has outstanding leadership now, and this is likely to continue in the future. The group's remarks on strategy (Appendix E1 of the self-evaluation report) emphasize its strength in the intersection of semantics and computational linguistics, and suggest a sharper focus on lexical meaning and the interface between meaning and use. These choices present exciting opportunities for the LLI group, and their potential societal relevance is enormous. Boosting this aspect of their plans would further cement their viability.

LLI's SWOT analysis focuses on its strengths, especially in promoting high-quality research and in securing external funding. It identifies the connection between theoretical linguistics and language technology as a *weakness*, but this could be seen as an *opportunity* for a group with this range of accomplishments. The appointment of a researcher whose work interfaces between the computational and theoretical views could be a key step. The LLI leaders were candid in admitting that they form a coalition, not meeting regularly as a group, but rather in more tightly defined subgroups. The group might experiment with some shared activities, which might allow subgroups to see points of contact with others. The committee took note of the fact that this issue and potential solutions were already firmly on the radar of LLI's leadership.

7.2.5. Conclusion

This is a world-class group with respect to all of the evaluation criteria. The rate and quality of research productivity of LLI is outstanding, and in line with expectations for a world-leading center of research in linguistics. The group makes an outstanding contribution to society, as is evidenced by its contribution to important advisory reports, to research products for societal target groups, and their outreach activities. LVC is excellently equipped for the future with its sensible, future-proof strategy, its ability to secure external funding and its excellent leadership.

5.2.6. Recommendations

The committee strongly supports the excellent achievements of LLI. Nevertheless, it has the following recommendations:

- Experiment with some shared activities, which might allow subgroups to see points of contact with others. The appointment of a researcher who interfaces between the computational and theoretical views could also be considered.
- Continue to devote attention to how its outstanding research might better be applied to improve products and services outside academia.
- Continue the collaboration with Artificial Intelligence in Utrecht as this may lead to further interesting opportunities for collaboration with industry.

5.2.7. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standard in the field of linguistics, the committee comes to the following quantitative assessments:

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

7.3. Assessment of Linguistic Theory and Language Acquisition

7.3.1. Profile

The Linguistic Theory and Language Acquisition group (LTLA, 3.4 FTE tenured staff in 2017) investigates language acquisition against the background of the formal and functional structure of natural languages. The ambition is to move beyond the nativist-emergentist debate by specifying the division of labor between input, maturational and processing factors. The group compares first language acquisition in monolingual vs. multilingual settings, children's second language acquisition, and disordered acquisition. A cross-linguistic perspective is essential to disentangling innate factors and input factors. The societal aims connected to multilingualism are improving language learning and language disorders. The group's strategy is to collaborate with developmental scientists within UU (Dynamics of Youth), nationally (Consortium for Individual Development), and internationally (Chinese University of Hong Kong-UU Joint Centre for Language, Mind and Brain).

7.3.2 Research quality

The members of LTLA explore the interface of linguistic representation and human development. Drawing on theories of linguistic systems they (i) seek to explicate the role of input/exposure in language development by studying populations with different language exposure; (ii) test and develop hypotheses concerning how multilingual input/exposure affects development; (iii) investigate the development of sound systems in relationship to input/exposure. The group combines advanced linguistic analysis, such as prosodic structure, representation of tone and syntax-prosody interactions, with a sophisticated perspective on development. The committee appreciates that the group has the capacity to contribute to the broader enterprise of understanding how language is learned in valuable ways. During the site visit, it was not easy to get a more concrete elaboration of their distinct perspective, and this may undermine their ability to move forward in their mission (see also 'viability').

The LTLA group has a strong publication record. Across all research output categories, the group produced 564 works during the review period, of which 74 were refereed journal articles, equalling 12.2 refereed journal articles per year, or 2.4 articles per FTE research staff per year).⁷ The publications cited in Appendix F of the self-evaluation report are in refereed journals that lead the field of cognition and language (*Frontiers in Psychology, Cognition, Language and Speech* and *Language and Cognition*). All are substantial and novel contributions to their research area. The papers are also influencing the course of debate, as the very good citation numbers of the key publications show (mean 37 citations/work). Unquestionably, the faculty of the LTLA group are distinguished and productive.

Digital tools and databases include annotation guidelines for acquisition corpora, a novel test for comprehension, a database of vowel pronunciations in child-directed speech, a corpus of bilingual children's narratives, some experimental material and a set of computational models for learning phonotactics. As noted in sections 5.1. and 6 of this report, more information tracking actual use of these products would be useful.

Recognition of the LTLA group is also apparent from the editorships of several top specialist journals and their service on important boards of committees and associations (e.g., on the board for teaching humanities). It is also noteworthy that twelve PhDs were successfully defended in this group during the reporting period (equalling 3.0 per tenured staff member),⁸ and that ten of these currently have academic positions (12 in App. D2 even though Table 3b notes only 11). This is clearly a reflection of the high standing of the LTLA group within the field.

⁷ The committee included tenured and non-tenured staff in the research staff totals, but not PhD candidates (see table A, Appendix 3).

⁸ For the calculation of PhDs per FTE the committee only took into account tenured staff, not non-tenured staff (see table A, Appendix 3).

Two postdocs were awarded within this group during the reporting period as well as some minor grants, altogether totalling €435K. This is good, but for an ambitious group, not enough to sustain the needs of larger research lines (see also 'viability').

7.3.3. Relevance to society

Society-related activities are closely connected to the research mission of the group, and revolve around theoretical and empirical issues in language acquisition. The group collaborated in the development of the experimental/diagnostic Coloring Book tool: an ingenious yet simple new way of assessing comprehension by learners and participants. In addition, they have set up a website for parents in bilingual families.

Given the societal interest in language learning, the panel expected more 'Projects in cooperation with (and funded by) societal groups'. The two projects listed were *Education of Internationally Newly Arrived migrant pupils* project (EDINA) and *Transitie en Meertaligheid* (TRAM). EDINA's PI is in another research group (5), and the project is sponsored by the European commission in the ERASMUS+ (App. H). TRAM is not listed under the grants (App. H), which perhaps reflects the fact that it ended in 2012 (app. M). It involved cooperation with parent associations and inspecting authorities, and it was based on collaboration with partners from four countries. The two projects document the considerable potential of this group for societally relevant work.

The group has also engaged in public outreach activities. LTLA researchers have published in journals which target readers in professions related to language development, presented their work to professionals and to general audiences, organized specialized public workshops, and appeared in the media.

The committee notes that, as mentioned in sections 5.2. and 6 of this report, it would have been useful to learn more about the actual impact of the societal activities of the group.

7.3.4. Viability

The LTLA group is both distinguished and distinctive; it has strong leadership and a solid track record (see 'research quality'). Nevertheless, there are some issues, recognized by the group in its own SWOT analysis and during the site visit, that need careful monitoring.

First, this group includes members of language departments with very heavy teaching requirements. This is particularly problematic when new research directions are being explored.

Second, whereas the group has, through its chosen focus, the potential to contribute to the institute in various and valuable ways, the lack of a more elaborated definition of their distinct profile may undermine their ability to move forward in their mission.

Third, the earning capacity of the group needs improvement if it is to succeed. There is an excellent potential opportunity for this group given Utrecht University's strategic theme. 'Dynamics of Youth'.

These three issues have an important impact on the group's viability, yet the committee took note of the fact that they are clearly on the radar of the group's leadership, and trusts that steps will be taken to solve them. Given the research quality of the group, the relevance to society of its mission, and the quality of its leadership, the committee is optimistic about the group's future success.

7.3.5. Conclusion

Over the reporting period, the LTLA group has published in very good venues and has supervised an impressive number of PhD students. On the one hand, the group's strong leadership and solid track record reflect positively on their viability. On the other hand, there is a problem in pursuing their ambitious goals without more success in grant acquisition. Other issues that need careful monitoring are the group's heavy teaching load and the definition of their specific focus. Finally, a group focused on language acquisition – even granted the perspective from theoretical linguistics – might aim at great societal impact.

7.3.6. Recommendations

The committee appreciates the achievements of LTLA. Nevertheless, it has the following recommendations:

- Review teaching responsibilities in the light of the overall mission of LTLA. Reduce instructional work for those most heavily involved in outside projects and funding efforts.
- Sharpen the 'mission statement' of LTLA to focus on its unique goals and the unique impact it has and will have on the modern language and cognition agenda.
- Try to identify areas involving the special expertise of the group where societal relevance might be forthcoming. The intention to focus more on multilingualism might be such an area.
- Find ways to improve LTLA's earning capacity. An excellent opportunity is the Utrecht University's strategic theme 'Dynamics of Youth'.

5.3.7. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standard in the field of linguistics, the committee comes to the following quantitative assessments:

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

7.4. Assessment of Language and Speech: Processing and Disorders

7.4.1. Profile

The Language and Speech: Processing and Disorders group (LSPD, 3.1 FTE tenured staff in 2017) aims to make innovative contributions to our knowledge about the neurocognitive substrate of language processing and acquisition, by focusing on the role of domain-general structures and processes. Also, it wants to contribute to a better understanding of language disorders, and to help improve diagnostics and treatment for people with language difficulties. This entails translating fundamental insights to models of language pathology, as well as addressing questions that arise in clinical practice. In order to achieve these goals, the group promotes cross-fertilization between psycholinguistics, phonetics and speech/language pathology; develops and acquires funding for research on the crossroads of linguistic science and clinical practice; collaborates with neighbouring scientific disciplines and clinicians; and disseminates results to professionals.

7.4.2 Research quality

The LSPD programme conducts interdisciplinary research on language acquisition and processing in typical and atypical populations. The committee notes that the innovative, interdisciplinary research done by this group is an important component of the institute's mission of engaging in research that is simultaneously theory-driven and practice-oriented.

LSPD has a strong publication record. Publications in this group included 64 journal articles, 20 book chapters, 1 book, and 64 refereed conference papers (equalling 10.7 refereed journal articles per year, or 2.6 articles per FTE research staff per year).⁹ Journal articles were in very good specialty journals, with 25% appearing in top tier journals for speech and hearing, linguistics, or psycholinguistics. Conference presentations were in top tier venues for research on psycholinguistics or language acquisition.

The key publications provided to the committee were innovative contributions that explore issues in psycholinguistics from a multi-disciplinary perspective. They included work applying information theoretic tools to help explain speech in aphasic patients, a study on language development in children at risk for dyslexia, a book chapter on specific language impairment, work on monitoring and error correction in speech production, and a paper that used a computational model of speech production to explore the nature of deficits in children with pediatric speech motor disorders. These articles appeared in excellent specialty journals, and included a publication in a broad high impact psychology journal (*Frontiers in Psychology*). Although most were published quite recently, the key publications have already been cited 88 times. One open access article in the key publications has been viewed over 1500 times.

With respect to other products for peers (other researchers, as opposed to societal groups), we note the digital tools and databases, including The *UCU English Accents corpus* and the *Coloring Book* (an electronic instrument for administering vocabulary tests to children). Given the fairly applied focus of the group, the panel expected more. It is normally difficult to engage in applications without good instruments, which peers usually appreciate. As noted in sections 5.1. and 6 of this report, more information on actual use of these products would be useful.

Recognition of LSPD staff can be seen in their invitations to give keynote presentations at conferences (2) and invited talks at universities abroad (6), as well as their service on editorial boards for journals. LSPD staff serve on the editorial boards of several journals, including *First Language*, *Journal of Fluency Disorders*, *Journal of Neurolinguistics*, *Language Acquisition*, *Linguistics*, and *Stem- Spraak- en Taalpathologie*.

The group's funding during the evaluation period included €83.450 in stream 1 grants, €1.7 Million in stream 2 funding, and € 155.963 Euros in stream 3 funding. LSPD has been especially successful

⁹ The committee included tenured and non-tenured staff in the research staff totals, but not PhD candidates (see table A, Appendix 3).

in acquiring stream 2 funding (NWO-grants), but this success is unfortunately not matched by a similar level of success in stream 3.

It is also very impressive that 12 PhD dissertations were defended in this group during the evaluation period, equalling 4.4 defended PhDs per tenured staff member.¹⁰ 9 of the PhD graduates have gone on to work in academic or research positions.

7.4.3. Relevance to society

Societal relevance is an essential aspect of the LSPD mission, as they translate knowledge of language processing and development to models of language pathology, which means that they often work on topics with direct relevance for clinicians that treat communication disorders. Besides their contributions to the scholarly literature on psycholinguistics, LSPD staff members publish in venues for speech language pathologists and teachers in schools for children with speech or language difficulties. Different LSPD staff members are very involved with this community, including organizing the *TaalStall* conference in 2012, 2015, and 2017 aimed at 400-600 professionals who work with children with language disorders. The excellent level of participation at these conferences is an important mark of recognition for the group's work.

Products for societal groups include a number of excellent tools for use by clinicians and teachers, including a computerized tool for vocabulary testing, a tool for the diagnosis of developmental speech disorders (*Computer Articulatie Instrument*), instruments for assessing the intelligibility of speech, a questionnaire for assessing the quality of life for people with aphasia, and *DigiTaal* tablet games for speech and language therapy. While we have no direct data on the usage of these instruments, their utility is suggested by the many collaborations LSPD staff have with societal groups, such as Boom Publishers, the Royal Auris Group, Royal Dutch Kentalis, and Revalidatiefonds.

Societally relevant activities also include public outreach. Members of LSPD have given public presentations about their work at *MuseumJeugdUniversiteit*, *KinderCollege*, *Meet the Professor*, *Scientist in the classroom*, *Rector's League*, *Weekend van de Wetenschap*, and at the *Drongo Festival*.

Societal target groups have recognized members of LSPD staff for their contributions. Besides the participation at *TaalStaal* (see above), members of LSPD were asked to serve as the chair of the scientific council for the Netherlands Association of Speech-Language therapists (*NVLF*), and to chair the consultation committee for *Woortblind*, the Dutch association for people with dyslexia.

The committee notes that, as mentioned in sections 5.2. and 6 of this report, it would have been useful to learn more about the actual impact of the societal activities of the group.

7.4.4 Viability

The LSPD programme is certainly viable. The leadership is strong, it attracts a lot of students, and the computational expertise of the staff should allow them to capitalize on the increasing importance of computational methods in linguistics research. Lab facilities are also very good. Staff members have a good track record for grant support, and are well positioned to apply for funding locally in connection with the university's Dynamics of Youth theme. Their multi-disciplinary approach should prove attractive for the funding initiatives at NWO and in the EU, which is fortunate, since the viability of the programme depends very much on continued grant support, which is always difficult.

The main threat to the viability of LSPD is that recent retirements have weakened their expertise in phonetics and speech science. This sort of expertise is crucial for the continuation of their research on language processing and the development of diagnostic and treatment tools for language disorders.

7.4.5. Conclusion

¹⁰ For the calculation of PhDs per FTE the committee only took into account tenured staff, not non-tenured staff (see table A, Appendix 3).

The LPSD programme conducts very good, internationally recognized research on the mechanisms of language acquisition and processing with numerous implications for clinical practice in the area of communicative disorders. The group makes an outstanding contribution to society through their work on topics with direct relevance for clinicians that treat communication disorders, their involvement with this community, the excellent tools they have developed, and their active involvement in outreach activities. LSPD is very well equipped for the future, with its strong leadership and solid track record for grant support. Nevertheless, it should be ensured that the phonetics and speech science expertise in the groups is continued.

7.4.6. Recommendations

The committee strongly supports the achievements of LSPD. Nevertheless, it has the following recommendations:

- increase efforts to obtain substantial national and international funding to sustain their research programme.
- concentrate more efforts towards tier one journals in the field of applied linguistics.
- strive to increase the visibility and impact of their publications and clinical tools.
- hire more tenured staff with expertise in phonetics and speech science.
- vigorously explore for applied research funding in collaboration with the stalwart societal partners.

7.4.7. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standard in the field of linguistics, the committee comes to the following quantitative assessments:

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

7.5. Assessment of Language and Education

7.5.1. Profile

The self-evaluation report describes how the Language and Education (L&E) group (2.8 FTE tenured staff in 2017) aims to understand which factors make L1 and L2 teaching and learning effective, and to provide an evidence base for the development of effective curricula, pedagogies and educational materials. Its ambitions are to (1) conduct theory-driven research on language learning in educational contexts, yielding high-impact publications, and (2) conduct societally relevant research, studying language teaching and learning in actual classrooms, yielding professional development of teachers and evidence-based materials and principles for the design of effective language curricula and pedagogies.

7.5.2 Research quality

The mission of the programme is to investigate the factors that promote success in L1 and L2 learning and teaching. The profile indicates that they conduct 'theory-driven research,' where the choice of theory is left implicit. The program's self-identified key publications list usage-based approaches and task-based studies, suggesting theoretical pluralism. The group's mission could be further strengthened by better articulating their theoretical approaches to investigating language learning. In order to improve international perspectives on the group in this respect, collaboration with other groups such as the theoretical and communication-oriented groups could be highlighted.

The group's publishing record is impressive in quantity, with 529 total products between 2012 and 2017, including 1 book, 64 refereed conference papers, and 67 refereed articles (equalling 11.2 refereed journal articles per year, or 4.7 articles per FTE research staff per year).¹¹ However, the panel found that the majority of the group's publications are in lower-impact education-specific journals (e.g. the *Journal of Writing Research*) and fewer from top-tier journals.

L&E lists two websites (clil-ren.org and schrijfadviezen.net) as its scholarly contributions outside publications, and this strikes the committee as a point where the group has not performed optimally. On the other hand, the group has a very strong record of peer recognition, as indicated by (a) 10 seats on editorial boards; (b) participation in SIGs, on tenure committees, and other committees and boards; and (c) numerous prizes and awards. This speaks to Language & Education's impact in the field and the quality of their research output.

The L&E group is regularly recognized for its quality by a range of research funders. Indeed, the group's earning capacity represents its greatest strength. Language & Education members have brought in over 3.4 million euros in total funding from all three major types of sources, with nicely distributed project leadership across the group. In the five years represented in the self-evaluation report, the group has been successful in acquiring grants from a variety of institutions. 8 PhD dissertations were defended in this group during the evaluation period, equaling 4 per tenured staff member.¹²

7.5.3. Relevance to society

The Language and Education group has a clear societal relevance for language educators, curriculum developers and language students in that they aim the majority of their outputs on utility-focused projects in the field of language education. As described above, the greater part of the group's published work is in professional journals aimed at language teachers. These emerge from a number of focused initiatives that have direct impact on society such as the ERASMUS programme (see below) regarding newly arrived immigrants, evaluation of language teaching and learning in primary education, research in reading, and the site on understandable writing (schrijfadviezen.net), which aims at providing evidence-based guidelines for understandable writing. Collaboration with primary,

¹¹ The committee included tenured and non-tenured staff in the research staff totals, but not PhD candidates (see table A, Appendix 3).

¹² For the calculation of PhDs per FTE the committee only took into account tenured staff, not non-tenured staff (see table A, Appendix 3).

secondary, and teacher-educational parties furthers UiL OTS's ambitions with respect to societal impact.

The group has developed a number of innovative websites and teacher-training workshops, such as the Erasmus-funded Education of International Newly Arrived migrant pupils Platform (EDINA), an action that clearly reflects UiL OTS's ambitions to develop and use new tools and to use new methodologies. In addition to this highlighted project, the group collaborates with and receives funding from societal groups for a number of projects. Particularly impressive is the project involving teacher-student classes and dissertations, in which 30 PhD candidates in total are involved, 6 of which are supervised by faculty from the L&E group. The review committee spoke to some of the PhD students involved in this project and noted its impressive impact. The Language & Education research group could consider other ways to connect with both linguistic and professional audiences, such as other software tools or collaborative projects to increase a sense of community.

The committee notes that, as mentioned in sections 5.2. and 6 of this report, it would have been useful to learn more about the actual impact of the societal activities of the group.

Language & Education has received considerable recognition by societal target groups (education, primarily) over the years. Participation in workshops and consulting with government bodies are two ways UiL OTS demonstrates the quality of its work and innovations. Members of the group are also the chairs of several National Boards.

7.5.4 Viability

Overall, the leadership of Language & Education has done a very good job directing and overseeing research that has not only had an impact on the field but on society as a whole. It has also performed well in directing and overseeing research that has been in keeping with the larger mission and ambitions of UiL OTS. Both of these achievements should contribute to the group's viability. Nevertheless, the group has lost key staff over this period, and their contributions will be missed.

Language & Education has secured over 3.4 million euros in funding from a wide variety of sources, which greatly supports viability. The group's number of PhD dissertations is increasing through grants to practitioners, which is also excellent from this perspective.

The group might clarify what makes Language & Education's methodological and statistical expertise 'high-stakes' and how it relates to the group's focus and ambition (see SWOT analysis). It should also consider how indicators actually demonstrate a connection between their research and societal relevance and recognition in order to bolster their arguments about the importance of their research in society.

The group identifies their relatively small staff and many tasks, as well as issues within the structuring of the department's undergraduate and Masters programmes as their main weaknesses. The group might consider ways of generating, selecting, and prioritizing 'high priority' or 'high relevance' research projects and agendas with other members of the Language & Education group and PhD students, in order to allocate projects to multiple group members without spreading people too thin. Also, the group should consider ways to mentor junior members so that they can play more active roles on editorial teams, boards, and committees. The same holds true for key positions with societal partners. Overall, Language & Education's candid recognition of its own shortcomings and obstacles is commendable and seems thorough.

7.5.5. Conclusion

The Language and Education group conducts very good, internationally recognized research. Its greatest strength in the evaluation period was its ability to secure grant funding to fund its research. However, while the group clearly uses this large amount of funding to produce a large quantity of research outputs, the *quality* of these outputs could be improved especially for higher-ranking staff members. Considering the quality of the group's staff and research, the committee trusts that this

improvement is well within reach for L&E. More attention might be paid to research tools and data sets. The group makes an excellent contribution to society, most notably through education-oriented publications.

7.5.6. Recommendations

The committee sincerely respects the achievements of L&E. Nevertheless, it has the following recommendations:

- Concentrate more efforts towards tier one journals in the field of applied linguistics.
- Interact more with the theory group to hone the theoretical justifications for the research program.
- Increase the efforts to mentor junior members of staff.

5.5.7. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standard in the field of linguistics, the committee comes to the following quantitative assessments:

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

7.6. Assessment of Language and Communication

7.6.1. Profile

The Language and Communication group (5.7 FTE tenured staff in 2017) investigates how language is used to get things done in the world, and how such goal-oriented language use can be made more effective. The scientific ambition is to innovate theory, e.g. on coherence, perspective, and framing, the impact of narrative, and the language-emotion interface. The group's societal ambition is to provide guidelines for the design of effective communication. The group's strategies are to (1) pursue its ambitions with a multidisciplinary team, ranging from conversation analysis to neuroscience, (2) strive for cross-fertilization of theoretically and societally oriented research, (3) invest in methodological innovation, from corpus-based readability analysis to muscle recordings of frowning, (4) seek interdisciplinary collaboration and partnerships with societal stakeholders, and (5) engage in national and international research agenda-setting activities.

7.6.2 Research quality

There are three strands of work in this unit: (1) linguistically grounded analysis of discourse and context, (2) research on the cognitive aspects of discourse processing, and (3) research on the affective aspects of discourse processing. The programme sees as its mission to tie together theoretical questions with societal impact. The panel appreciates how well the group has positioned itself to function optimally in a research institute for linguistics.

The publication record of the LC group included 148 refereed publications (equalling 24.7 refereed journal articles per year, or 2.1 articles per FTE research staff per year), approximately 16% of which were in top tier international journals.¹³ The multi-disciplinarity of the group is supported by the wide range of specialty journals in which they publish. Besides peer reviewed journal articles, the LC group output also included 10 books, 88 book chapters, and 144 refereed conference papers. Moreover, the LC group has produced software for quantifying texts, such as the T-scan software for complexity analysis of texts in Dutch, and an instrument for determining the readability of Dutch texts. Also, LC's Knowledge Base for Comprehensible Language is a database of readability-relevant science literature. Further, LC group members are curating a repository of annotated text corpora. Overall, these are excellent contributions.

Key publications speak to the range of the group's research activities, including a review chapter on the cognitive neuroscience of discourse processing for a prominent psycholinguistics handbook, a theoretical piece in *Linguistics* on the meaning of words like 'because', a paper in *Public Opinion Quarterly* with implications for the methodology of survey construction, a paper in the high impact general interest journal *PloS One* on how to test the efficacy of pamphlets about health care, and a pre-registered report that shows the group's commitment to open science. Citation of these key publications ranged from 1 to 53, and averaged 22.2. In view of disciplinary norms, these citation rates are excellent for such recent works.

The use of research products by peers is evident in the impact of LC staff's publications. The excellence of the LC scientific staff is supported by their receipt of several best paper awards, including the Best Paper in the IEEE PCS Transactions on Professional Communication, Frank R. Smith Outstanding Journal Article Award, and the 2013 Excel Silver Award for a Feature Article from the Association for Media and Publishing.

Peer recognition of LC staff is high. They played editorial roles in 10 journals, including top outlets for work in psycholinguistics, semantics, applied linguistics, and business communication. LC staff served on the editorial boards for three book series that serve as important outlets in stylistics. Peer recognition of the LC group is also evident from their service on 3 NWO grant panels, 4 tenure committees, and their selection to play leadership roles in 14 national and international scientific associations.

¹³ The committee included tenured and non-tenured staff in the research staff totals, but not PhD candidates (see table A, Appendix 3).

The LC group's funding record is very strong. They received 3 grants from internal sources for €0,48 Mil, 8 grants from the NWO for over €1,89 Mil, and 8 grants from international sources for over €0,7 Mil. Over the review period, total funding per LC FTE tenured staff was €538.000.

Given the excellent funding environment in the LC-group, it is somewhat surprising that the group does not train more PhD students. At the outset of the evaluation period in 2012, there were 0,8 PhD students per tenured FTE. In 2017, there were 0,4 PhD students per tenured FTE. While the sheer number of PhD candidates is somewhat low, the quality is high. Ten candidates defended during the evaluation period (equaling 2.0 per tenured staff FTE),¹⁴ and 7 have gone on to assume academic positions. The remaining 3 have excellent positions in industry.

5.6.3. Relevance to society

Because LC research aims to help people design effective communication strategies, societal relevance and impact are inherent parts of the research goals of this group.

The LC staff have provided extensive input on communication strategies to groups that interface with the Dutch government. The group has participated in more than a dozen projects in cooperation with and funded by societal groups such as the Dutch Home Owners Association, The Dutch Network for studies on Pensions, aging and retirement, forensic linguistics for the national police and several other security oriented projects, advice on communication for physicians. LC staff have also developed tools used by the general public, such as the *Leesbaarheidstool* that can be used to evaluate the readability of a text, and the T-scan software for evaluating the complexity of a text. Finally, LC members have been active in outreach activities, including public presentations in museums, schools, and festivals, and the creation of websites to popularize knowledge of linguistics. They have written 58 papers aimed at the general public.

Besides continued collaboration with LC staff, societal groups have recognized particular group members for their work. For example, one LC member serves on the Committee for Evaluation of Communication by Referendum, advising the Dutch government committee responsible for referenda, and another serves on the board of the VIOT, an inter-university platform for language use.

The committee notes that, as mentioned in sections 5.2. and 6 of this report, it would have been useful to learn more about the actual impact of the societal activities of the group.

5.6.4 Viability

The LC programme includes an active group of researchers doing a broad range of excellent work on societally relevant topics. The group is ideally positioned to capitalize on UU funding initiatives such as 'Dynamics of Youth' and 'Institutions for Open Societies'. They have a good track record of securing funding from national (Stream 2) and national/international (Stream 3) sources, and have a number of large proposals in the pipeline. Their strategy of conducting high quality science- and societally driven research is exemplary. Viability is excellent.

The group itself has concerns about a drop in the number of PhD candidates, and the lack of local courses that cover topics (such as discourse analysis) relevant for LC students. It's an excellent sign of the group's ability to anticipate difficulties that they point these out. Several possible solutions to these two problems occur to the panel, but being ignorant of the local constraints, we limit ourselves to the remark that neither problem seems to us a serious risk to the group's eminent viability.

¹⁴ For the calculation of PhDs per FTE the committee only took into account tenured staff, not non tenured staff (see table A, Appendix 3).

5.6.5. Conclusion

This is a world-class group with respect to all of the evaluation criteria. The innovative, multi-disciplinary work in the LC group is an important component of the research excellence of the UiL OTS. Research in this group is theoretically driven, and its scientific methods and results are significant for the field of linguistics, while at the same time being socially relevant and useful for improving communication in society. This characteristic is very rare and should be commended and supported. The rate and quality of research productivity of LC is outstanding, and in line with expectations for a world-leading center of research in linguistics. The group makes an outstanding contribution to society, as is evidenced by its advisory work, its participation in project together with societal partners, and its extensive outreach activities. LC is excellently equipped for the future with its exemplary strategy, strong leadership and excellent earning capacity.

5.6.6. Recommendations

The committee strongly supports the excellent achievements of LC. Nevertheless, it has the following recommendations:

- explore the possibility of a research master's programme in language and communication, perhaps in collaboration with colleagues in other faculties, such as social sciences and informatics. This could expand the pool of qualified applicants for the PhD programme, as well as providing training avenues for extant candidates.

5.6.7. Overview of the quantitative assessment of the research unit

After having assessed the research quality, relevance to society and viability, and comparing that to the developments and standard in the field of linguistics, the committee comes to the following quantitative assessments:

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

APPENDICES

APPENDIX 1: THE SEP CRITERIA AND CATEGORIES

There are three criteria that have to be assessed:

- Research quality:
 - Level of excellence in the international field;
 - Quality and Scientific relevance of research;
 - Contribution to body of scientific knowledge;
 - Academic reputation;
 - Scale of the unit's research results (scientific publications, instruments and infrastructure developed and other contributions).

- Relevance to society:
 - quality, scale and relevance of contributions targeting specific economic, social or cultural target groups;
 - advisory reports for policy;
 - contributions to public debates.

The point is to assess contributions in areas that the research unit has itself designated as target areas.

- Viability:
 - the strategy that the research unit intends to pursue in the years ahead and the extent to which it is capable of meeting its targets in research and society during this period;
 - the governance and leadership skills of the research unit's management.

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

APPENDIX 2: PROGRAMME OF THE SITE VISIT

08.30-09.30	Closed session Committee
09.30-10.30	Interview with Institute management
10.30-10.45	Break
10.45-11.15	Interviews with programmes parallel session 1 Language Structure: variation and change Psycholinguistics
11.15-11.45	Interviews with programmes parallel session 2 Language & Education Language, Logic and Information
11.45-12.15	Interviews with programmes parallel session 3 Linguistics Theory and Language Acquisition Language & Communication
12.15-12.30	Break
12.30-13.15	Informal working lunch with representatives of the Institute
13.15-14.00	Interview with (selection of) PhD students (1 st 15 mins incl Phd coordinator)
14.00-14.15	Break
14.15-14.45	Tour Lab facilities
14.45-15.15	Meeting with societal partners
15.15-15.30	Break
15.30-17.00	Closed session Committee
17.00-17.15	Break
17.15-17.45	Presentation of preliminary findings

APPENDIX 3: QUANTITATIVE DATA

Table A: Research staff

UIL OTS

	2012		2013		2014		2015		2016		2017	
FUNCTIONIE SEP	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE
1 Tenured	64	25,37	60	23,70	64	24,52	60	23,83	63	25,87	70	28,0
2 Non tenured staff	24	12,60	24	12,38	22	11,12	21	9,17	15	8,30	21	5,8
3 PhD students*	67		63		60		51		47		45	
Grand Total w.o. affiliates	155	37,97	147	36,08	146	35,64	133	33,00	125	34,17	136	33,8

* Employed PhD students, PhD students on grants of 3 days a week or more, including those who had such funding in the past and are still preparing their dissertations.

		2012		2013		2014		2015		2016		2017	
RESEARCH GROUP	FUNCTIONIE_SEP	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE
1 LANGUAGE STRUCTURE: VARIATION AND CHANGE	1 Tenured	17	6,24	15	5,01	20	4,77	15	5,2	16	5,7	20	7,0
	2 Non tenured staff	2	1,90	4	2,07	4	0,81	6	1,6	4	2,0	4	1,6
	3 PhD students	18		17		17		13		9		11	
	4 Affiliates	2		4		4		4		6		5	
TOTAL		39	8,14	40	7,08	45	5,58	38	6,8	35	7,7	40	8,6

2 LANGUAGE, LOGIC AND INFORMATION	1 Tenured	10	5,00	8	4,94	10	5,71	10	4,9	11	6,5	11	5,9
	2 Non tenured staff	8	5,72	8	3,26	4	2,62	3	1,2	2	0,9	4	0,8
	3 PhD students	11		11		10		7		6		8	
	4 Affiliates	1		1		2		2		2		1	
TOTAL		30	10,72	28	8,20	26	8,33	22	6,1	21	7,4	24	6,7

		2012		2013		2014		2015		2016		2017	
RESEARCH GROUP	FUNCTIE_SEP	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE
3 LANGUAGE THEORY AND LANGUAGE ACQUISITION	1 Tenured	10	4,41	10	4,24	11	4,70	8	4,0	9	3,6	9	3,4
	2 Non tenured staff	7	2,33	2	0,58	5	2,14	3	1,1	1	0,2	1	0,0
	3 PhD students	14		9		12		12		11		8	
	4 Affiliates	2		1		2		2		2		3	
	TOTAL		33	6,73	22	4,82	30	6,84	25	5,1	23	3,8	21
4 LANGUAGE AND SPEECH: PROCESSING AND DISORDERS	1 Tenured	6	2,70	7	2,82	4	1,42	8	3,4	8	3,1	7	3,1
	2 Non tenured staff	3	0,63	5	3,77	3	1,09	2	0,8	1	0,5	3	0,9
	3 PhD students	8		10		9		6		8		6	
	4 Affiliates	1		4		6		7		5		5	
	TOTAL		18	3,33	26	6,59	22	2,51	23	4,2	22	3,6	21
5 LANGUAGE AND EDUCATION	1 Tenured	6	1,16	7	2,29	7	2,82	7	2,2	7	2,7	7	2,8
	2 Non tenured staff											3	0,2
	3 PhD students	4		5		3		4		4		6	
	4 Affiliates			1		2		4		3		3	
	TOTAL		10	1,16	13	2,29	12	2,82	15	2,2	14	2,7	19
6 LANGUAGE AND COMMUNICATION	1 Tenured	15	5,86	13	4,40	12	5,10	12	4,1	12	4,3	16	5,7
	2 Non tenured staff	4	2,03	5	2,70	6	4,46	7	4,4	7	4,8	6	2,3
	3 PhD students	12		11		9		9		9		7	
	4 Affiliates	1		3		2						2	
	TOTAL		32	7,89	32	7,10	29	9,56	28	8,5	28	9,0	31
GRAND TOTAL		162	37,97	161	36,08	164	35,64	151	33,0	143	34,2	156	33,7

Affiliates include: emeritus professors, external PhD students on grants of less than 3 days a week, long-term visitors who publish, retired researchers who publish, selected employees without paid research time. Their numbers are included here, but not in the headcounts in the institute summary table above.

Table B: Categories of research output**UiL OTS**

OUTPUT CATEGORIES LABELS	2012	2013	2014	2015	2016	2017	TOTAL
Book chapters	26	40	43	48	38	55	250
Book editorship	6	8	6	12	5	6	43
Books	2	4	2	5	5	4	22
Conference papers (refereed, potentially incomplete authors)	122	168	83	71	69	56	569
Conference posters	13	6	16	11	18	12	76
Conference proceedings	50	42	39	35	20	19	205
Invited talks	21	29	9	16	17	12	104
Other research output	367	399	409	351	355	304	2185
Ph.D. theses	10	8	19	8	5	11	61
Professional publications	21	22	18	27	19	25	132
Publications aimed at the general public	27	21	17	4	6	6	81
Refereed articles	80	84	75	72	74	95	480
Grand Total	745	831	736	660	631	605	4208

This table does not match the added values of all individual groups due to output shared by different groups.

	2012	2013	2014	2015	2016	2017	TOTAL
1 LVC	166	207	146	175	154	154	1002
Book chapters	13	19	11	19	10	16	88
Book editorship	1	3	1	5	3	2	15
Books	1	2	1	2	2	2	10
Conference papers (refereed, potentially incomplete authors)	23	43	17	20	32	9	144
Conference posters	1			2	1	1	5
Conference proceedings	10	14	7	3	4	4	42
Invited talks	7	2	2	3	4	5	23
Other research output	93	104	84	96	71	84	532
Ph.D. theses	1	2	6	6	1	3	19
Professional publications	1	3	3	10	6	5	28
Publications aimed at the general public	1		1		4	4	10
Refereed articles	14	15	13	9	16	19	86

	2012	2013	2014	2015	2016	2017	TOTAL
2 LLI	123	125	123	121	117	104	713
Book chapters	3	10	7	7	8	15	50
Book editorship	4	1	3	3	2	1	14
Books	1				1	1	3
Conference papers (refereed, potentially incomplete authors)	17	24	10	12	13	10	86
Conference posters				3	4	2	9
Conference proceedings	13	9	15	11	4	3	55
Invited talks	6	6	2	7	2	3	26
Other research output	68	63	71	63	71	60	396
Ph.D. theses	1	1	3	2	1	1	9
Professional publications	1	3	1	2		3	10
Publications aimed at the general public	5	1	1			1	8
Refereed articles	4	7	10	11	11	4	47

	2012	2013	2014	2015	2016	2017	TOTAL
3 LTLA	130	139	94	61	77	63	564
Book chapters	2	3	7	9	1	5	27
Book editorship		2	1	1		1	5
Books		1					1
Conference papers (refereed, potentially incomplete authors)	31	36	12	10	8		97
Conference posters	4	3	8	2	5		22
Conference proceedings	9	4	4	9	6	6	38
Invited talks	3	11	1		2		17
Other research output	67	58	48	22	44	30	269
Ph.D. theses	3	2	2		2	2	11
Professional publications		3		1			4
Refereed articles	11	16	11	7	9	19	73

	2012	2013	2014	2015	2016	2017	TOTAL
4 LSPD	71	65	80	71	65	78	430
Book chapters	3	3	7	2	2	3	20
Book editorship				2		1	3
Books		1					1
Conference papers (refereed, potentially incomplete authors)	20	17	7	5	3	12	64
Conference posters	8	2	7	3	2	6	28
Conference proceedings	1	3	7	6	4	2	23
Invited talks		1		3			4
Other research output	29	27	36	38	42	37	209
Ph.D. theses		1	3			2	6
Professional publications	1			1	2	4	8
Refereed articles	9	10	13	11	10	11	64

	2012	2013	2014	2015	2016	2017	TOTAL
5 L&E	83	90	114	102	71	69	529
Book chapters	2		5	5	6	7	25
Book editorship			1	1		1	3
Books				1			1
Conference papers (refereed, potentially incomplete authors)	12	17	8	7	2	9	55
Conference posters				1		1	2
Conference proceedings	4	3	3	1	1		12
Invited talks	1	2	3	1	3	3	13
Other research output	36	54	71	60	44	28	293
Ph.D. theses	3		4		1		8
Professional publications	9	4	8	11	6	7	45
Publications aimed at the general public	1		2	1	1		5
Refereed articles	15	10	9	13	7	13	67

	2012	2013	2014	2015	2016	2017	TOTAL
6 L&C	177	210	183	139	154	145	1008
Book chapters	3	5	6	7	11	10	42
Book editorship	1	2				1	4
Books			1	2	2	1	6
Conference papers (refereed, potentially incomplete authors)	20	33	29	21	12	16	131
Conference posters	1	1	1		6	2	11
Conference proceedings	13	9	4	5	1	4	36
Invited talks	4	9	1	2	6	1	23
Other research output	74	94	101	76	88	70	503
Ph.D. theses	2	2	1			3	8
Professional publications	10	9	6	2	5	6	38
Publications aimed at the general public	20	20	13	3	1	1	58
Refereed articles	29	26	20	21	22	30	148

Table C: Funding

Uil OTS

Uil OTS	2012 FTE	2012	2013 FTE	2013	2014 FTE	2014	2015 FTE	2015	2016 FTE	2016	2017 FTE	2017
GS1	22,24	38%	21,94	38%	20,02	35,27%	18,05	39%	23,36	50%	24,16	58%
GS2	32,46	55%	32,90	56%	28,72	50,59%	20,56	44%	16,40	35%	9,11	22%
GS3	4,59	8%	3,61	6%	8,02	14,13%	7,67	17%	6,77	15%	8,37	20%
PERSONNEL	4.281 k€	96,3%	4.145 k€	96,3%	4.210 k€	96,4%	3.719 k€	96,7%	3.783k€	97,0%	3.593k €	97,4%
MATERIAL	163 k€	3,7%	159 k€	3,7%	157 k€	3,6%	126 k€	3,3%	116k€	3,0%	974 k€	2,6 %

Total FTE does not match table 3a, since here PhD student FTEs are included.

Research groups

	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	
RESEARCH GROUP	GS	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%
1 LANGUAGE STRUCTURE: VARIATION AND CHANGE	1	5,69	43%	3,84	30%	3,92	37%	5,31	50%	6,02	54%	6,19	55%
	2	7,39	56%	8,67	69%	5,29	51%	4,49	43%	4,16	37%	1,75	16%
	3	0,10	1%	0,10	1%	1,26	12%	0,75	7%	1,07	10%	3,26	29%
TOTAL		13,18		12,61		10,47		10,55		11,25	24%	11,20	27%

2 LANGUAGE, LOGIC AND INFORMATION	1	2,93	19%	3,66	31%	2,82	21%	2,90	33%	4,52	44%	3,79	44%
	2	10,93	72%	6,44	55%	5,75	43%	2,67	30%	2,57	25%	1,85	21%
	3	1,33	9%	1,61	14%	4,65	35%	3,18	36%	3,20	31%	2,97	35%
TOTAL		15,18		11,71		13,22		8,75		10,29	22%	8,61	21%

	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	
RESEARCH GROUP	GS	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%
3 LANGUAGE THEORY AND LANGUAGE ACQUISITION	1	3,14	32%	2,85	40%	2,37	25%	2,32	38%	2,77	73%	2,95	86%
	2	6,61	67%	4,27	60%	7,16	75%	3,07	50%	1,04	27%	0,47	14%
	3	0,07	1%		0%		0%	0,79	13%			0,00	0%
TOTAL		9,82		7,12		9,53		6,18		3,81	8%	3,41	8%

4 LANGUAGE AND SPEECH: PROCESSING AND DISORDERS	1	2,97	49%	3,38	29%	2,32	41%	2,49	51%	3,31	72%	3,14	68%
	2	3,14	51%	7,84	68%	3,29	59%	2,38	49%	1,22	27%	1,50	32%
	3		0%	0,25	2%		0%			0,06	1%		
TOTAL		6,10		11,47		5,61		4,87		4,59	72%	4,63	11%

5 LANGUAGE AND EDUCATION	1	1,66	41%	2,29	49%	2,82	68%	1,57	42%	2,23	58%	2,60	84%
	2	1,13	28%	1,35	29%	1,35	32%	1,50	40%	1,17	31%	0,17	5%
	3	1,25	31%	1,08	23%		0%	0,66	18%	0,42	11%	0,31	10%
TOTAL		4,04		4,72		4,17		3,74		3,82	8%	3,08	7%

6 LANGUAGE AND COMMUNICATION	1	5,86	53%	5,92	55%	5,77	42%	3,46	28%	4,51	35%	5,49	51%
	2	3,26	30%	4,33	40%	5,88	43%	6,45	53%	6,24	49%	3,38	32%
	3	1,85	17%	0,57	5%	2,11	15%	2,28	19%	2,02	16%	1,82	17%
TOTAL		10,96		10,82		13,76		12,19		12,77	27%	10,70	26%
GRAND TOTAL		59,29		58,45		56,76		46,28		46,53	100%	41,64	100%

UIL OTS TOTAL	1	22,24	38%	21,94	38%	20,02	35%	18,05	39%	23,36	50%	24,16	58%
	2	32,46	55%	32,90	56%	28,72	51%	20,56	44%	16,40	35%	9,11	22%
	3	4,59	8%	3,61	6%	8,02	14%	7,67	17%	6,77	15%	8,37	20%
TOTAL		59,29		58,45		56,76		46,28		46,53		41,64	

Table D: PhD candidates

COHORT	F	% F	M	% M	TOTAL	≤4	%	≤5	%	≤ 6	%	>6	%
2009	7	50%	7	50%	14	2 /	14%	3 /	21%	3 /	21%	1 /	7%
2010	6	60%	4	40%	10	4 /	40%	4 /	40%	0 /	0%	1 /	10%
2011	12	92%	1	8%	13	4 /	31%	1 /	8%	4 /	31%	3 /	23%
2012	12	92%	1	8%	13	1 /	8%	3 /	23%	4 /	31%	0 /	0%
2013	9	90%	1	10%	10	0 /	0%	1 /	10%	0 /	0%	0 /	0%
AVERAGE		77%		23%	60		18%		20%		18%		8%

COHORT	DEFENDED	%	ACTIVE	%	FINISHED	%	QUIT	%
2009	9 /	64%	0 /	0%	0 /	0%	5 /	36%
2010	9 /	90%	0 /	0%	0 /	0%	1 /	10%
2011	12 /	92%	0 /	0%	2 /	15%	0 /	0%
2012	8 /	62%	2 /	15%	3 /	23%	0 /	0%
2013	1 /	10%	3 /	30%	4 /	40%	1 /	10%
AVERAGE		65%		8%		15%		12%

Additional appendices supplied separately.