SHORT TERM SCIENTIFIC MISSION (STSM) – SCIENTIFIC REPORT

Action number: CA15221

STSM title: WeReLaTe qualitative Data Analysis

STSM start and end date: 19/01/2018 to 08/02/2018

Grantee name: Frank Meyhöfer

Title: *Towards a common understanding of the desirable functions of higher education centralised support for teaching, learning, research and writing*

How to cite this document:

Meyhöfer, Frank (2018). *Towards a common understanding of the desirable functions of higher education centralised support for teaching, learning, research and writing: Report of Short Term Scientific Mission COST Action 15221.* Maynooth: COST Action 15221

Acknowledgement: This document is based upon collaborative work by COST Action 15221 members, supported by COST (European Cooperation in Science and Technology).

This STSM is part of COST Action 15221, *We ReLaTe: Advancing effective institutional models towards cohesive teaching, learning, research and writing development* supported by COST http://www.cost.eu/COST_Actions/ca/CA15221

1. Introduction

This research report provides an extensive and comprehensive qualitative analysis of the common ground shared between 43 COST Action MC members regarding the support and development of the four key higher education activities – teaching, learning, research and writing. In the following report, a systematic overview of the member's heterogeneous perspectives on desirable functions of centralised supports for the four key higher education activities is presented in the manner of a 'thick' description grounded in the data. Then, a structured account of common purposes, processes, knowledge and scholarship basis, skills development and values displayed in the data is arranged on a greater level of abstraction to enable a straightforward overview. Both results can be used to address and discuss the optimization and improved strategic development of goals, structures and services of central supportive institutions in higher education.

2. Method

This report's data corpus consists of 43 free written responses from Action MC members (hereinafter: participants) to an initial writing prompt. Qualitative analysis was conducted to generate a comprehensive, primarily descriptive overview of the content of participants' responses. Following Creswell 2013, Saldana 2013, Hennink/Hutter/Bailey 2011 and others, a method of gradually refined coding of the responses was used. During the first coding cycle, a combination of descriptive, inductive and deductive codes were developed and assigned across the data. These codes and their context-specific appearance resemble the participants' own view regarding, as stated in the initial writing prompt, their desired ways to best support teaching, learning, research and writing in their institution. These codes were gradually refined and differentiated while thematically related codes were condensed into overarching categories after a preliminary point of saturation and sufficient data-groundedness had been reached (cf. Glaser & Strauss 1967). After all codes and categories were shown to be sufficiently distinct from each other across the data, six preliminary main categories and their possible connections to each other were identified in a preliminary model.[1] The categories, their respective codes and sub-codes, therefore, depict commonalities and differences that can be observed throughout the data and were used to 'make sense of the data' and to provide a 'thick' overview of the participants' different perspectives regarding the desired support of teaching, learning, research and writing in higher education.

Based on the chosen model, *a second coding cycle* was undertaken to further explicate possible dimensionalizations of codes and categories and to check for category-related commonalities and differences between participants' responses across the whole material to specify variables and to ensure precision of separation between categories (resembling axial and selective coding in reference to Strauss & Corbin 1998). The main goal of the second coding cycle was, therefore, to extract and sort the information, thereby providing an additional layer of abstraction necessary for the comprehensive overview of desirable functions of centralised supports for teaching, learning, research and writing (presented in the following section) and for the structured account of purposes, processes, knowledge/scholarship basis, skills development and values (presented in section 4).

3. Desirable functions of centralised supports for teaching, learning, research and writing

This section provides a detailed overview of the different desired functions of centralised supports for teaching, learning, research and writing as displayed across the responses of the

COST Action's participants. As a whole, the responses reflect four general desired functions of support: development and implementation of centralised support should be *proactive*, *evidence-based and proficient*, while being conducted in a *synergetic and context-sensitive* manner that provides a *collaborative and communicative* setting.

Proactivity

Proactivity refers to the proposed or stated desired function of acting proactively in developing and implementing centralised support for all or some areas of teaching, learning, research and writing. The general support model or specific supportive components and strategies should be organized in a manner that proactively transfers, deepens or makes available knowledge, skills or competencies, before awareness of their lack or related needs may arise. Proactivity is often mentioned in relation to support provided for students, but, as can be seen further below, support for faculty members, teaching staff and researchers should also be provided proactively.

One participant, for instance, exemplarily portrays students seeking support in the course of the final years of their studies as often "too late, as it is only at this point that students really see the value of all of these important skills" (271517-271509-22860172, p. 5). Rather, support for activities and processes in teaching, learning, research and writing should be integrated in a proactive manner, instead of reactively compensating students' possible lack of skills at the end of their studies. In that way, the overall goal of higher education could be fulfilled, as one participant observes: "Embedding these activities from early in students' programmes of studies would help us to produce the desirable graduates about whom [we] so often fantasise" (ibid). This specific expression of proactivity, as being one of the desired functions of centralised support, can be seen as a representative ideal-case[2] of a shared wish for proactivity across participants' responses.

This becomes clear in the numerous remarks that propose a scaffolded development and implementation of support activities. As one participant representatively claims, support should be embedded in an "organised and scaffolded manner. Programme/course teams would work together to ensure that the activities are embedded across the entire programme at suitable times in the students' careers" (271517-271509-22860172, p. 6). Scaffolding here refers to the practice of organizing support in development and transmission of knowledge, skills and competencies related to higher education activities in a proactive manner, which progresses over time in a gradual and continuous increasing level of complexity and/or difficulty. Proactive support should therefore consider "graduality and continuity", because all of "[t]he four processes at hand have to be introduced and developed gradually" (274670-274662-23912881, p. 17). The explicit proposition of a scaffolded support model for teaching, learning, research and writing can thus be viewed as an additional layer of the desired proactivity of support shared by many participants across the data: for instance, participants often refer to adjusting the scaffolding to the needs and/or capabilities of support's target group. Support offers and opportunities, from the perspective of these participants, should be oriented on the different educational levels in higher education (BA/MA/PhD and so on). Support with regard to teaching, learning, research and writing for students should, therefore, be relative to their educational level and current state of their study progress, in order to "ensure progressive development of learning from simple to sophisticated" (274670-274662-23912881, p. 17). The scope, difficulty of employed strategies and complexity of subject matters increases then in accordance with increasing educational levels.

Propositions of scaffolded support vary between participants regarding targeted groups, ranging from students to faculty members or even staff tasked with support activities in the areas of teaching, learning, research and writing. As one participant states, support for faculty members should address "cohesively and proactively" the development of higher education skills and competencies throughout faculty members' whole career based on a "vision" for their overall development (274670-274662-23992083, p. 18).
Additionally, participants' wish for proactivity varies with regard to the time span in which support should be provided. Some participants propose a scaffolded support for students that begins in their first year of study and guides them throughout their educational career.[3] Other participants propose establishing a scaffolded development of skills and competencies that are central to the higher education activities even beyond the institutional boundaries of universities.[4] This could include incorporating core skills such as logical, problem-oriented and creative thinking on all educational levels that are adjusted to the levels of maturity and capacity of the respective target group, thus calling for a new approach to education in general.

Evidence-based & proficiency

Almost all participants share the desire to develop and implement support for teaching, learning, research and writing in an evidence-based and proficient manner. Support in all areas of higher education, encompassing students as well as faculty member and staff engaged in related activities, should be based on empirical data and current research as well as strategies of evaluation and assessment relative to their institutional setting. The latter refer to activities and processes of reviewing, examining, verifying and basing future development procedures on gathered evidence. At the same time, staff working in all areas of teaching, learning, research and writing should be sufficiently proficient and should be provided with opportunities to deepen their knowledge and improve skills associated with these fields of higher education. The desired function of support in higher education to be evidence-based and proficient goes hand in hand, as will be discussed.

Although participants may express different perspectives on whether all or only some areas of higher education support activities should be evaluated and assessed, all participants agree that support activities should be based on evidence. One participant notes that support for every area "needs a research basis" (274670-274662-23505220, p. 15). Moreover, another participant, describing the positive benefits of basing support activities and structures regarding learning and teaching on evidence, notes that by encouraging students and teachers alike to explore, understand and evaluate their own learning and teaching styles, "teaching/learning populism, i.e. the belief in the apparently magical, quick and efficient learning/teaching activities" (274670-274662-23995884, p. 20) can be prevented. Rather, teaching and learning support should be based on and informed by both scholarly research on learning theories and teaching methods as well as moderated personal and discursive reflection. Centralised support should therefore proceed in "an open and innovative, evidence-based education path" (274670-274662-23256909, p 12). This observation summarizes the shared desire to base the development and implementation of support in evidence provided by current scholarly research and discourse on the valuable expertise of proficient experts in all areas. In this sense, most participants agree on the need to explicate already existing knowledge and competencies related to the support of higher education activities.[5]

Additionally, almost all participants propose different strategies of evaluating and assessing future activities and structures (or on those already in place) to ensure that development and implementation of support will be based on evidence. The precise measures of evaluation and assessment vary across participants' responses regarding its specific object, and the precise means and time by which it should take place.[6] Some wish to assess the current state of support measures in their institution so as to identify further development possibilities, while others wish to monitor implementation processes in order to refine and further align support structures and activities to their respective institutional settings. In this way, evidence-based development procedures, e.g. "research findings [translated] into the various departmental contexts such that it gets taken up" (274670-274662-23505220, p. 16), are intertwined with modes of evaluation and assessment, and can involve students' feedback as well.[7] Accordingly, evaluation and assessment – in the scope of an overall desired evidence-based support – are mentioned not as supplementary, but rather an integral part of support. In the case of learning support, for instance, it is deemed necessary to employ "formative modes of assessment and accreditation of learning in a variety of methods" in order to "make sure that all opportunities and support structures are in place for innovative approaches to learning to take root" (274670-274662-22995385, p. 6).

Complementary to grounding support in evidence derived from scholarly discourse as well as self-gathered data by evaluation and assessment, nearly all participants agree on the need for processes and structures that ensure sufficient proficiency of staff tasked with support activities. At the same time, proficiency itself is grounded in expertise and skills derived from the current state of scholarly discourse and/or criteria. All participants mention that support activities in teaching, learning, research and writing should be carried out by staff members who possess the necessary qualifications, competencies and knowledge basis needed to guarantee proficient support. Centralised support should be provided by "specialised staff with expertise in the four key areas" (271517-271509-22860172, p. 5) and who possess an "appropriate level of awareness and proficiency" regarding these areas in their "core activities and support/admin activities" and also encompassing different educational levels (274670-274662-23505220, p. 15).

To ensure sufficient proficiency, many participants propose continuous training and instruction of staff working in higher education support, such as being trained in the use of technological infrastructures to improve support-oriented practices (e.g. see 274670-274662-23193403, p. 10). In addition, those assigned with teaching and research should be provided with the possibility of individual development and growth regarding their competencies, in the form of "various training sessions" (274670-274662-23912881, p. 17). Qualifications of faculty members should be developed continuously "throughout their careers" (274670-274662-23992083, p. 18) and the desired proficiency should entail "a proof of skill's mastery" (274670-274662-23193403, p. 11) by publishing, presenting at conferences and organizing specialized workshops. Proficient staff qualification is, moreover, broadly described as the ability to find and hold the right "balance" between internal and external demands in the setting of centralised support[8], encompassing knowledge and skills directly related to supporting faculty members and students alike as well as overall communicative, organisational and administrative skills.[9] Likewise, support centre's staff should consist out of "multi-professional teams", possessing expertise and communicative skills "in order to cross

disciplinary boundaries and to improve university-business dialogue" (274670-274662-23154908, p. 10).

The proposed outcomes of this desirable function of evidence-based and proficient support varies in scope between the participants, ranging from established informed guidelines and criteria sensitive to individual institutional setting [10], to elaborate "global" plans that encompasses the institution as a whole.[11] Some participants explicitly state the need for some form of an organisational map or structure model based on expert's knowledge and current scholarly discourse. Firmly grounded in evidence, such maps or models would not only clear up misunderstandings regarding key terminology and provide checked criteria, rules and guidelines, but would also allow the participants to develop and organize support for higher education activities in a strategic, cohesive and coherent manner suitable to their institutional setting.

Synergy & context-sensitivity

Most of the participants consider a synergetic development and implementation of support for teaching, learning, research and writing, which also takes into account the varying demands posed by different institutional settings and academic disciplines, as a desirable function of centralised support. By emphasising synergy, many participants propose bringing closer together the support already in place in their respective institutions and identifying common features of higher education that are shared across the different areas of support. At the same time, the development and implementation of support should be mindful of specific characteristics, attributes and traits of the heterogeneous academic disciplines that are located in the participants' respective institutional environment.

The idea that support for higher education should emphasis synergetic effects is representatively reflected in one participant's description of the current state of support in academia at large: "Generally, in the academic society, the need for more effective integration of teaching, learning, research and writing has been present" (274670-274662-23409434, p. 13). Hence, most of the participants promote to some degree a "centralized support structure for all four areas", since "there will be many overlaps" (271517-271509-22829270, p. 3). Moreover, having a clearer understanding of this "systemic synergy" (274670-274662-23995884, p. 20) would not only enable participants to utilize it during support development and implementation, but would also allow them to "use resources in a reasonable way" (271517-271509-22829270, p. 3). Although most of the participants agree that the synergetic overlaps between the different areas of support in higher education are beneficial and should be used to the advantage of different stakeholders, some participants refer to core skills and activities underlying all support areas which should be focused more in support programs:

> To all four key activities, there are umbrella concepts like critical thinking, creative thinking and problem solving. Or the other way round, this 'mental skills' are the common base for good quality learning, writing, teaching and research (274670-274662-23995469, p. 19).

Subsequently, participants build on this claim, as is reflected in one participant's detailed proposition to

> include as many 21st century skills (such as communication, critical thinking, innovation

> and creativity, collaboration, problem solving, ethics, action and accountability, global awareness) as possible, both in the teacher training course as well as in the teaching methods of each specific subject (274670-274662-23028987, p. 10).

At the same time, many participants refer to synergies between specific areas of support.[12] However, an overall approach to higher education support with the desired function to take into account possible synergies between the different areas of higher education activities is clearly visible in the data.[13]

To make full use of the synergetic effects of support in all areas, one participant proposes that the current support provided by the respective institutional setting should be assessed so that support areas currently neglected in relation to other areas can be given more importance to foster and ensure the "interconnected[ness]" (274670-274662-23193403, p. 11) of support in higher education. Following this line of thought, some participants deem it necessary to make "use of the educational development network already in place" (274670-274662-23992083, p. 19) to promote synergies between different support activities and structures. This perspective, shared by many participants, should also entail taking into account the specific characteristics – and peculiar demands – of different disciplines located in the participants' respective institutional environment.[14] In summarizing a detailed description of desirable support in higher education, one participant points to the necessary connection between synergetic and context-sensitive support: "The keyword(s) seem to be integration (integration of the four dimensions; integrating as department research fields with other department and their research fields; integration of activities into related TLWR-activities" (274670-274662-23505220, p. 16).

Ensuring that these "opportunities for synergy" go hand in hand with "the development of faculty and disciplinary-specific approaches" (274670-274662-23992083, p. 19) is noted by many participants. Likewise, research projects on support in higher education should be conducted across the disciplines and "could be interventions (learning materials, technological artefacts, class activities, evaluation methods)" that at the same time should be "integrated into the curriculum, whilst maintaining the specific characteristics of the discipline/module" (274670-274662-23256909, p. 11). As can be seen from the various accounts of the specific current institutional setting of the participants, successful customisation of support to discipline-specific needs poses a challenge for development and implementation of support that is based on the current state of research, because

> [d]ifferent science areas have specific practices of doing research, writing and teaching and those differences have to be addressed in order to have effective outcomes (274670-274662-23912881, p. 17).

> If our research suggests flipping is the way forward, what does that mean for the history department, say?; how does a particular approach, genre-based writing instruction perhaps, translate and morph when taken up by Architecture or Sports, say? (274670-274662-23505220, p. 16).

To summarize, most of the participants describe making use of synergies between the areas of teaching, learning, research and writing, thereby enabling a discipline- and context-sensitive development and implementation as a desirable function of support in higher

education.

Collaborative and communicative setting

Almost all participants fundamentally agree that one of the desired functions of support in teaching, learning, research and writing should be to provide a setting that encourages and fosters collaboration and communication. Support in higher education should not only take into account the needs of different stakeholders located in the respective institutional setting, but successful support needs to be developed and implemented in collaboration and constant communication between all persons involved.

As can be seen from participants' description of specific collaborative measures across the whole data, this desired function can be achieved by generating collaborative or cooperative working environments, expedient division of labour, implementation of communicative forms of review and feedback and by involving heterogeneous actors in shared work processes: "Centralised support for teaching, learning, research and writing should work together with many different status groups and stakeholders within the university and beyond its boundaries" (e.g. see 274670-274662-23323584, p. 12), generating a collaborative setting. In order for support in higher education to be successful, one participant representatively sees "in practice [...] the necessity of close interaction and collaboration with faculty and department-level units" (274670-274662-23992083, pp. 18). Likewise, if a centralised office for support should be established, one of its primary goals should be to bring "lecturers [and] professors" (inside one department as well as from different departments) together to discuss possibilities for improving existing support and to share "good-practice examples" (274670-274662-23995469, p. 19).

Some participants describe the socio-physical characteristics of this collaborative setting with greater detail. The "coworking-space", proposed by one participant, should enable collaboration by providing different stakeholders involved in support activities to work together in project groups (271517-271509-22829270, p. 3). Two participants explicitly mention "faculty learning communities" as desirable forms of collaborative support in teaching, learning, writing and research: peer learning, peer review and individual as well as collective reflection on support processes should be encouraged by establishing "faculty learning communities" that are meant to "keep dialogue and exchange alive" (274670-274662-23154908, p. 10), thereby providing faculty members with the opportunity to improve their teaching and learning competencies in a collaborative manner by engaging together in a self-chosen and trans-disciplinary curriculum (see 274670-274662-23016737, p. 8). As becomes clear across the data, most of the participants' responses entail the desire for involving and fostering collaborative processes in support for higher education.[15]

The desired function of support in teaching, learning, research and writing to be based on and to foster collaboration is interlinked with the necessity to provide a communicative setting: Almost all participants value communication between centralised support and the different stakeholders in their respective institutional settings very highly and deem it to be one of the necessary conditions for successful, cohesive and strategic support development and implementation. Most participants share the view that, due to the synergetic overlap of support in teaching, learning, research and writing, those working in centralised support should continuously communicate and cooperate with departmental representatives/deputies. In fact, as one participant explicitly states,

> [o]ne of the most irritating aspects of seeking support is the difficulty of identifying who is in charge of anything or indeed, why some support services are duplicated across an institution (271517-271509-22838865, p, 3).

Rather, as one participant observes, the centralised support's office "should be a networking device, giving opportunity to people from various institutions (not only academia) to talk about problems, set goals together and find solutions" (274670-274662-23995469, p. 19). The desired communicative setting of centralised support, for many participants, plays a crucial role in disseminating valuable information regarding the areas of teaching, learning, research and writing, including "regular updates on research in each area" as well as "news, developments, funding opportunities, and so on" (271517-271509-22838865, p. 4).

Some participants propose repeated meetings between staff working in higher education support and different stakeholders of the institution in order to enhance coordination of development and implementation measures.[16] In one case, for example, a small group of members from every faculty would meet with staff working in centralised support on a regular basis to allow the monitoring of support's progress (see 274670-274662-23873935, p. 16). For most participants, the exchange of knowledge, skills and experience between institutions related to activities in teaching, learning, research and writing is important for successful support development. Such institutions can be located in academia as well as industrial settings (See, for example, 274670-274662-23932187, p. 17). From this perspective, exchange and communication between different institutions related to expertise in support for teaching, learning, research and writing should be strategically improved, because the core competencies and skills entailed in these areas transcend the borders of the university and are connected to greater societal or work environments, making it necessary to include people from various institutions (also external to academia) in dialogue (e.g. see 274670-274662-23995469, p. 19).

To summarize, collaboration and communication within centralised support models as well as between centralised support and academic personnel should increase "or at least [work] properly" (274670-274662-22989592, p. 7) to ensure sufficient information dissemination and collaborative coordination that is necessary for successful support in higher education.

4. Shared common ground of purposes, processes, knowledge/scholarship basis, skills development and values

This section presents a structured account of purposes, processes, knowledge/scholarship basis, skills development and values shared by the participants. In contrast to the previous section and to enable a straightforward overview, the content is arranged on a greater level of abstraction, using the COST Action's workgroup's foci as an additional outline level.

Purposes

1. Teaching & Learning

- Teaching and learning settings should be collaborative and allow self-directed learning processes by incorporating new technologies and e-learning infrastructure.

- Teaching and learning settings should enable the general acquisition and development of core skills underlying higher education activities, such as logical, problem-oriented and creative thinking as well as communicative competencies.
- Support for teaching and learning should be aligned to the needs of both students and teachers, while factoring in specific demands of the broader institution.

2. *Research & Writing*

- Support for research should provide faculty members and students alike with a communicative setting that enhances the dissemination of information and fosters inter-disciplinary/inter-departmental projects and exchange. Research environments should be spaces of creative creation that provide researchers with the opportunity to share, discuss, consult and provide feedback on each other's research processes and results.
- Support for writing should assist faculty members and students to produce quality academic work, while taking into account different genres, styles and types of publications.
- Support for writing should be embedded in students' curriculum and integrated more broadly into other areas of higher education activities to improve overall educational outcomes.
- Support in academic writing should take into account the successful long-term development of science and research at a global level, thereby selectively transcending the borders of the respective institution.

3. *Frontiers & Borderlands across teaching, learning, research and writing*

- The main goal of support should be to provide each student, teacher, researcher and faculty member with "the means to succeed and improve according to their specific needs, possibilities and objectives", while positively influencing the overall development of the university.
- Support for teaching, learning, research and writing should promote synergetic development and implementation of support activities based on identified common grounds across the areas of higher education support and make use of support structures already in place in respective institutional settings.
- Centralised support for teaching, learning, research and writing should generally pay special attention to possibilities and opportunities that allow faculty members to convey knowledge, skills and competencies related to these areas to students. Furthermore, students should be offered various direct contact opportunities with both support staff and disciplinary experts related to their individual needs.
- Strategic development of support across all areas of higher education activities should be connected with an overall new approach to education that is oriented on contemporary societal conditions and demands.

Processes

1. *Teaching & Learning*

- Teaching and learning support should be integrated into students' curriculum in a scaffolded manner, progressing over time in a gradual and continuous increasing level of complexity and/or difficulty oriented on students' respective educational level.
- New technologies and digital solutions should be employed to enable accessible, blended and collaborative learning environments for both students and teachers.
- Teachers and students should be supported in evaluating and reflecting on their respective teaching and learning environments. Additionally, different evaluation methods should be employed and students' feedback should be gathered to properly evaluate teaching and

learning outcomes. Decisions and incentives (not only monetary), which foster improvement of teaching and learning, should be based on these manifold data corpuses.

2. *Research & Writing*

- Centralised research support should supervise and assist the research efforts of individual researchers from different departments and disciplinary backgrounds.
- Equal opportunities for research engagement should be provided for every member of academic staff. Resource management should not only consider monetary funding, but should also properly factor in the time spent by researchers on other (obligatory) higher education activities necessary for producing desirable research outcomes.
- Writing support should be offered for everyone engaging in research activities; faculty members and students alike. To assist them in their research processes, writing support should provide support that helps to effectively communicate research design, processes and outcomes, while also being sensitive to genres, styles and epistemic practices of individual disciplines.

3. *Frontiers & Borderlands across teaching, learning, research and writing*

- Development and implementation of support across all higher education activities should identify and involve all relevant stakeholders: Communication and collaboration between centralised support and those stakeholders should be fostered and each department should be able to partake in development and implementation processes oriented on their specific student bodies and study programmes.
- Development and implementation of support programmes for all areas should be continuously evaluated and monitored by employing suitable modes and strategies of assessment.
- To improve integrated development and implementation of support in teaching, learning, research and writing, resources and finances should be distributed between centralised support and individual faculties/departments' initiatives related to improving students' knowledge and competencies related to these areas.
- Integrated support for learning and writing that considers discipline-specificities allows students to realize that they have an active responsibility to be involved in their own learning and writing processes and to actively participate in offered support structures.

Knowledge & scholarship basis

1. *Teaching & Learning*

- Teaching should be informed by current states of research and scholarly discourse regarding learning theories and appropriate teaching methods (e.g. constructivism, collaborative learning, blended learning) and should be informed by new technologies and digital solutions.
- Embedding teaching and learning support into students' curriculum should be based on current states of research regarding higher education activities, while taking into account the specific characteristics of each respective discipline.

2. *Research & Writing*

- Academic writing is closely intertwined with discipline-specific research processes. Therefore, support for writing has to consider the different epistemic practices and modes of publishing results of individual disciplines.

- Performance indicators of researchers should be critically addressed: The actual content and outcome of research should be valued more highly than publishing frequency and various kinds of publishing should be valued.

3. Frontiers & Borderlands across teaching, learning, research and writing

- Centralised support across all areas of higher education should be developed in an evidence-based manner, grounded in robust empirical data, current state of research and scholarly debate as well as strategies of evaluation and assessment relative to the individual institutional setting. Thus, one of the tasks of centralised support is to provide and transmit a sound research basis for higher education activities for departments and administration located in the institution.
- Dedicated staff working in centralised support should generate a model or framework that considers the current state of best practices from other successful institutions. This model or framework should then be tailored to the specific circumstances of the individual institution to provide coherent development and implementation of support activities, policies and procedures.
- Faculty member's knowledge and personal experience regarding support for teaching, learning, research and writing should be gathered to provide a valuable data source derived from local practitioners. Additionally, acquired knowledge of successful institutions and experts regarding all areas of higher education activities should be gathered and made explicit.
- Access to relevant information, databases and literature should be provided for all staff members working in the areas of teaching, learning, research and writing.
- Centralised support should include staff specifically assigned to process current scholarly discourse regarding all areas of higher education support. Some members of centralised support should complimentarily be dedicated to administrative and bureaucratic tasks.
- Suitable methods of evaluation and assessment of academic staff's competencies and performances regarding teaching, learning, research and writing should be employed to inform further development of support.
- Inadequate support for learning and teaching is especially visible in students' writing, providing a valuable empirical ground for evaluating and adjusting support for those areas.

Skills development

1. Teaching & Learning

- Teachers should be properly trained in new teaching methods and learning styles (e.g. collaborative, blended learning and e-learning). Teachers should be supported to be able to not only teach on their respective area of expertise and let students discuss the current state of research regarding their respective subject matter, but to also help students in acquiring and refining core skills common to academic work.
- Support for teachers should incorporate different formats oriented on the desired outcome of skill development, ranging from multiple training sessions to workshops, and group projects to direct one-on-one consultations
- By combining a constructivist or collaborative perspective on learning processes with new technical possibilities of blended learning and user generated content, students are enabled to undergo a larger shift of their general attitude towards learning, moving from consuming to producing valuable knowledge during learning activities. Hence, students should be motivated and supported to conduct their own research projects, and should be enabled to use new technologies to enhance their learning experience.

- Faculty members should be provided with the opportunity to share their teaching knowledge, expertise, information and strategies with each other. Regularly assembled trans-disciplinary faculty working groups, in which faculty members engage in a curriculum, which is dedicated to improving teaching and learning competencies and knowledge in a collaborative manner, would be useful.
- To improve engagement from faculty members in developing their teaching skills, greater incentives, regarding salary, promotion and recognition, would facilitate engagement and participation in offered teaching support.

2. *Research & Writing*

- Researchers should be offered consultations regarding publishing and presenting their work at conferences. They should also be provided with additional assistance and/or mentorship while conceptualising their research processes, seeking new research-projects and applying for research grants.
- Researchers should be additionally trained and supported in mandatory administrative, communicative and bureaucratic routines.
- Students should have the opportunity to engage in their own research activities relative to their educational level and to present their work.
- Staff dedicated to support writing should possess broad specialisation in sciences and technology, humanities and social sciences to better align their support offers with the respective departments.
- The expertise and support offered by staff working in writing support should be made visible to faculty members (not only students), therefore enabling researchers as well as teachers to make use of writing support.
- Workshops on academic writing should be offered across students' entire curriculum and should be available for students from the first year of their studies.

3. *Frontiers & Borderlands across teaching, learning, research and writing*

- Certain staff members of centralised support should be additionally trained to properly monitor and evaluate current faculty-specific implementation of support for higher education activities. Likewise, disciplinary boundaries should be crossed by employing multi-professional teams as centralised support's staff.
- Opportunities for interdisciplinary research projects should be provided to allow researchers to engage in collaborative improvement of their writing and teaching competencies.
- Faculty members' competencies and knowledge regarding teaching, learning, research and writing should be developed continuously throughout their careers in a cohesive and gradually progressive manner.
- In order to foster acquisition, development and refinement of skills and competencies, the general working conditions for those interested in working in support for teaching, learning, research and writing should be sustainable and should provide long-term incentives for staff members, including regular opportunities for promotions as well as consideration of surplus time spent developing skills and competencies related to all areas of central higher education activities.

Values

1. *Teaching & Learning*

- Support offers for teaching and learning should sufficiently respect the individual “freedom of teaching style”.
- Emphasizing individual needs regarding learning (with a special focus on students with special needs) promotes overall accessibility in the institution.
- Teaching and learning environments should provide a higher degree of autonomy by using different teaching methods and technological solutions for enabling interactive and collaborative learning. Students should be able to achieve a higher degree of personalization in their learning activities by means of blended learning activities.

2. *Research & Writing*

- Free creation and sharing of research content between different research groups should lead to an overall better research environment. In general, access and visibility of resources, materials and information across researcher’s institutions is of great value.
- As many professors and researchers as possible should have the freedom and support to partake autonomously in the emergence of creative innovation.
- The allocation of time is held to be one of the most valuable resources for managing research activities. A better overview of all obligatory tasks is needed to properly assess and distribute time.
- Regarding the distribution of funds for research, faculties should have a certain level of autonomy within their areas of research.

3. *Frontiers & Borderlands across teaching, learning, research and writing*

- Support activities and structures need to be visible and accessible to every member of the institution, regardless of their status level. Likewise, support development should sufficiently take into account and respect the needs of all involved stakeholders. Altogether, centralised support should value the autonomy of every member of the institution and those seeking support or working in higher education activities should feel “supported, not patronized”.
- Academic personnel should be invested in adopting solutions for improving higher education activities. Centralised support should sensitise different stakeholders to support offers and provide incentives for academic personnel to engage in their own development of further skills, competencies and knowledge regarding teaching, learning, research and writing.
- The work environment of those working in higher education support should encompass transparent and fair rules of operation, provide opportunities for communicative and collaborative work processes and foster creativity and mutual trust. Different types of staff’s work results and achievements should be equally valued and rewarded.
- Centralised support across teaching, learning, research and writing should take into account the relations between the respective institution and broader educational and work-/business environments. Thereby, centralised support should foster the acquisition and development of higher education skills and competencies applicable beyond the borders of the university and should consider the greater goals of the institution in order to generally benefit society.
- Centralised support should help students to properly choose their field of study and/or their department relative to their interests, true level of skills and competences.

References

Creswell, John W. (2013): *Qualitative Inquiry and research design. Choosing among five approaches* (3. Ed.). Thousand Oaks et al.: Sage.

Glaser, Barney G./Strauss, Anselm L. (1967): *The discovery of grounded theory: Strategies for qualitative research*. New York: Aldine de Gruyter.

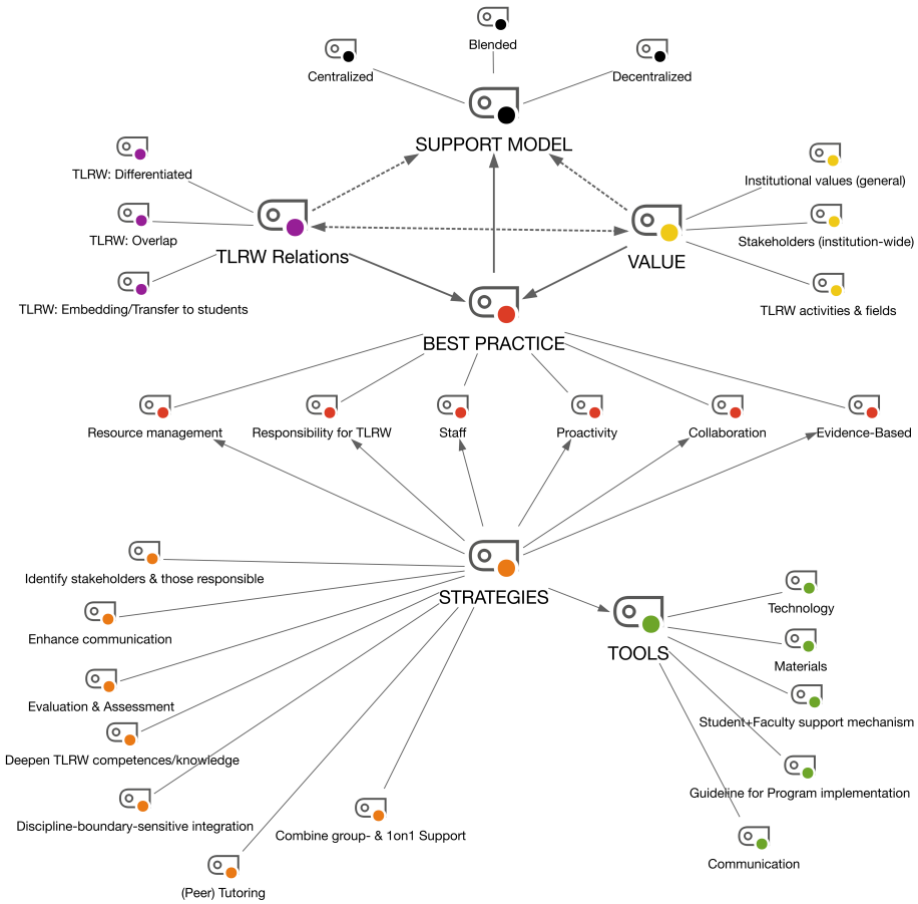
Hennink, Monique/Hutter, Inge/Bailey, Ajay (2011): *Qualitative Research Methods*. Thousand Oaks et al.: Sage.

Saldana, Johnny (2013): *The coding manual for qualitative researchers* (2. Ed.). Thousand Oaks et al.: Sage.

Strauss, Anselm L./Corbin, Juliet M. (1998): *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks et al.: Sage.

Appendix

The following model depicts the relation between the preliminary main categories, their potential relation to each other and the aggregated respective sub-categories of every main category. As described in the section on method above, the model has been the result of the first coding cycle and its categories; codes and sub-codes have been further refined during the second coding cycle:



By more or less directly responding to the writing prompt (imagined "ideal world"), all participants throughout the collected data propose *BEST PRACTICE*s that entail activities, routines, institutional/organisational structures or characteristics of proposed support models regarding the different areas of teaching, learning, research and writing (hereinafter: TLRW). *BEST PRACTICES* can therefore be understood as future or wished-for ideal scenarios for TLRW

support contained, in various stages of detail, in every participant's response. These *BEST PRACTICE*s are achieved and maintained by employing discernible *STRATEGIES*. By following these *STRATEGIES*, participant may state the development of specific *TOOLS* that can be differentiated from the measurements that are followed in a strategic manner.
By outlining *BEST PRACTICES* as well as their accompanying *STRATEGIES* and *TOOLS*, participants on the one hand often make claims regarding the potential differences or commonalities between the fields of TLRW and/or state a special emphasis on possibilities of embedding TLRW related competencies or knowledge in students' curricula (see *TLRW Relations*). On the other hand, participants often perform general or thematically specific value attributions regarding the areas of TLRW, overall characteristics of the scientific community or different stakeholders of the institution (see *VALUE*). *TLRW Relations* and *VALUE*s do not entirely overlap with proposed *BEST PRACTICES* and can therefore be sufficiently differentiated from each other. In addition, centralised, decentralised and blended *SUPPORT MODEL*s may be proposed explicitly by some participant's answer to the writing prompt and to the prior survey questions. However, *BEST PRACTICE*s are often articulated with reference to varying forms of support models, while the overall support model – seen from the perspective of the participant as reconstructed from her/his response – cannot be clearly identified. Therefore, *SUPPORT MODEL*s and respective sub-codes have been used in structuring the data during the first coding cycle, but have at later stages of analysis been subdivided into specific relations between the other categories and then entirely discarded. The following table presents an overview regarding the overall distribution of code assignment frequency across the data:

Assigned Code	**Frequency**
SUPPORT MODEL	64
BEST PRACTICE	157
STRATEGIES	181
TOOLS	71
TLRW Relations	73
VALUE	115
Other	15
Total code assignments	676

Endnotes

[1] See Appendix for a visual representation and more detailed explanation of this model as well as an overview of code assignment frequency.

[2] The desire for proactive support of students is elaborately captured by the "Step-Care-Approach" described by one participant in great detail: This "step-care approach" combines general group workshops with one-on-one (peer) tutoring sessions. The workshops are meant to address a larger audience on a broader thematic scale; one-on-one (peer) tutoring sessions are then oriented on the individual's needs. Following that chronological order and supplementary logic, the step-care approach should proactively address the broader and then developing individual needs of students concerning higher education activities, knowledge and competencies. Acting proactively in this manner should therefore, decrease the overall need for one-on-one consultations. Thus, proactive support should not only set students up for successful graduation, but also entail positive organisational outcomes: The proactive "approach, along with the embedded-support within the students' classroom[,] should mean that less one-to-one provision would be necessary" (271517-271509-22860172, p. 5).

[3] Especially regarding academic writing, support in the form of small-group workshops should be available for students "right from the first year to the specific requirements of writing in their own discipline" (274670-274662-23980483, p. 18).

[4] As one participant proposes, the development of essential skills and competencies for higher education activities (e.g. creativity and critical thinking) goes "from elementary to higher education" (274670-274662-23995469. p. 19).

[5] The need to explicate already existing expert knowledge to ensure evidence-based development and implementation of support is representatively reflected in the propositions of two participants, who would "create a core group to identify what were the practices already used in my institution" (271517-271509-22851464, p. 4) and who would "organise short scouting visits […] to institutions that are already successfully implementing strategies aimed at synergizing the four areas so that […] the relevant experience […] and ideas" (274670-274662-23912881, p. 17) could be gathered and exchanged.

[6] Throughout the data, most participants refer to evaluation and assessment strategies more broadly as a part of grounding support in robust evidence, although some participants describe specific forms such as impact studies (274670-274662-23505220, p. 15), context analysis (274670-274662-23014500, p. 8) and SWOT analysis (274670-274662-22989592, p. 7).

[7] As specifically proposed by some participants, students' expectations should be collected in the form of a "teacher-students partnership approach" (274670-274662-23154908, p. 10) in order to align offered educational programmes with their needs. Also, students should complete surveys regarding the support offered by their respective faculties (see 274670-274662-23873935, p. 16). Moreover, students could be recruited to participate in research processes or experiments in teaching, learning, research and writing and be able to provide feedback regarding support activities so that the overall support for learning can be tailored to their needs (see 274670-274662-23256909, p. 11).

[8] The following quote illustrates that desired qualifications encompass a broad set of skills, directly and indirectly linked to genuine academic activities: "They need to be experts in one of the four mentioned areas, but also need to be experts in listening and communicating. They need to be able to find a balance between the demands of stakeholders and the expert knowledge they bring into it. They also need to balance permanently between service and

being academic and research-based. They need to balance between administration and academia. They need to be balance experts with very high social skills" (271517-271509-22829270, p. 3).

[9] Some participants propose that at least some of the staff members working to support in the areas of higher education support should be competent in administrative tasks as well: Additional "competent administrative staff" (274670-274662-23395308, p. 13), e.g. non-teaching staff such as administrative and legal assistants (see 274670-274662-23424747, p. 14), should be employed to assist those working in centralised support. Qualifications in administrative duties seem to be necessary across all areas of teaching, learning, research and writing, as is reflected in one participant's claim that "[s]taff responsible for research should be (more) trained concerning administrative routines and writing" (271517-271509-22846488, p. 4)

[10] By strategies of evaluation and assessment of academic staff, criteria of proficiency should be informed in an evidence-based manner: "I would centralize the performances of the academic person[nel] regarding teaching, learning, research and writing, based on certain key performance indicators that must be strictly established based on the field of expertise of every academic person, as there can be big differences between specific areas" (274670-274662-22989592, p. 7).

[11] Participants' views vary regarding the scope of these evidence-based guidelines: Some wish for a guideline that addresses a single area of the key higher education activities, some state the current lack of - and therefore: the desire for - a "global plan" (271517-271509-22851464, p. 5) that entails the development and implementation of support for the whole institution across all areas and not just single departments or a decentralised centre tasked with only one area.

[12] See also section 4 of this report for a differentiated picture of possible synergies between teaching and learning, research and writing and across these areas of higher education support.

[13] As can be seen in the following examples, participants often clearly state or suggest overall synergies between all of the areas of support in higher education, even when focusing on only one. With regard to learning, additional support for research and writing skills should be provided by "one integrated approach", because "the four areas would not be dealt with separately; students would be given good learning opportunities to develop their research and writing skills through one integrated approach" (271517-271509-22860172, p. 5). And as another participant states, "teaching and learning is in close connection with science and research that reflects in [an] ability to write at all levels of higher education" (274670-274662-23499729, p. 14).

[14] The interconnectedness of the desire for synergetic and for context-sensitive support can be further illustrated with the following questions one participant poses to himself regarding the overall desired centralised support in his specific institutional setting: "I would think everything else from a learning perspecti[v]e: What kind of teaching supports learning and how can my institution foster that kind of teaching? How does writing support learning as well as critical thinking since critical thinking always is learning? How does research support learning, that means how can I integrate real research into teaching?" (274670-274662-23000152, p. 7).

[15] For further illustration, some participants underscore the need for collaborative support practices in a specific domain of teaching, learning, research and writing: Since research processes are usually conducted collaboratively by involving "experts from different departments and specializations", centralised support that assists researchers in these

collaborative practices is “highly desirable” (274670-274662-23349945, p. 13). With regard to support for teaching, one participant wishes for new “opportunities to collaborate and to observe each others’ practice, opportunities to reflect and to learn new things” (274670-274662-22995385, p. 6). Likewise, learning processes and environments should “encourage sharing, networking and collaboration” (274670-274662-23028987, p. 10).

[16] Participants’ responses vary across the data regarding the detailed shape or form of communication processes, but most agree that meeting (not only often, but face-to-face) in a collaborative and communicative setting is a desired function of support in higher education. The connection between collaboration and communication is clear in one participant’s detailed description of a meeting between all relevant stakeholders: “I would then bring those stakeholders together in a two-day-long event. I would make sure that the people involved will get the possibility to get those two days off and I would make it attractive by choosing a nice place to meet and by offering good food. It is important to really reach all possible stakeholders in advance – not only those with access to inside information or in top positions of hierarchies” (271517-271509-22829270, p. 2).