

MAGEO 02-11: Integrative Spatial Planning and Case Studies

Technical Note: Five steps to practising the scientific method

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Version 5.0, Luxembourg, 25th March 2015

The aim of this manual is to guide you through the process of preparing and practicing scientific inquiry in geography, planning or urban studies. It includes some basics of applying the 'scientific method', usually comprising different types of activity such as i) designing a research project, ii) reading and assessing secondary sources, iii) writing a related paper, iv) presenting your findings against an informed audience, and v) getting started by writing an abstract. As it is based on my own experience, this manual reflects more the qualitative rather than the quantitative orbit of science and research.

1) How to develop a research idea and structure a research process?

As any other ambitious activity with a long-standing history, doing research builds on a certain tradition and needs to be carried out rather carefully. The ideas presented here should guide you through this endeavour, concerning the various ways of expressing scientific thought, such as reading, writing, or talking. Doing research is an activity that actually consists of two major elements: firstly, a *reflection* of appropriate ideas, concepts, methods and the like; and secondly, the *practice* of doing it. While the former is essential for identifying the right starting point and proper direction of where to go, students will be able to develop the required proficiency only through the latter. Nobody has been perfect in this respect right from the beginning: We all had to undergo the multifaceted process of acquiring capabilities to read, write, and talk about the subject matter, both substantially and efficiently.

Commonly accepted standards of the scientific method tend to structure a research process alongside a short set of phases. First of all, the most important point comes up right in the beginning: what is your research interest? What do you want to find out, what is the problem you would like to address? Without a precise research question, any investigation may not come to a clear end, will not be coherent. If somebody asks you: “What is your thesis Sir/Madam, what is your argument?”, you should be able to respond quite substantially and without further delay. Some colleagues are even used to explain an entire research trajectory just by addressing one major question, put into one or two sentences ...

Teachers will guide you through the process of detecting relevant and interesting issues to explore, by discussing such questions jointly with you and your fellow student colleagues. Particularly when preparing your master thesis, and even more so in the case of a PhD-project, three reasons will have to be given in order to identify a research question that suits: i) Is this an established, relevant issue of the disciplines that deserves a fresh perspective to be applied? ii) Do you deal with a new phenomenon, or a changing context of a given topic, that deserves to be explored by using current frameworks and methods? iii) Is it a pressing problem of practice that needs further investigation, in order to inspire practitioners when seeking appropriate strategies? One of these questions should justify why you are doing research, and indicate that the topic and approach that you’ve chosen are claiming relevance.

After a precise analytic, conceptual, or normative research problem has been articulated, your research question needs to be operationalised. While it is essential to broaden your horizon by checking theories and literature (what do we know about a certain subject?), you need to reduce your focus empirically to an extent that allows you to conduct a study within a given limit of time and funds (research expense). Essentially empirical disciplines such as geography and spatial planning usually demand a proper combination of conceptual thoughts and a field site or case study research ‘on the ground’. Depending on the particular research interest, various methods come into play for application, across a broad range of standardised and non-standardised procedures that have proven to be effective. As this is a particular challenge, we recommend consulting handbooks and guides on methods, such as the excellent volumes provided by Flowerdew (2005) or Ward (2014).

An appropriate research design includes the following tasks or elements:

1. *Articulate a problem*: Formulation of problems in terms of scientific questions/queries, delimitation of the problem, proof of its relevance;
2. *Define the subject*: precise classification and formulation of the item or of the question to be studied;
3. *Conduct the study*: applying methods in order to provide empirical substance;
4. *Analysis*: data assessment, giving meaning to findings -- in most cases, data do not speak for themselves;
5. *Results*: overall interpretation of the findings, both concerning the case studied *and* drawing more generic conclusions.

According to a more traditional understanding of science, a theoretical reference is being made in either step 1 or 2, in order to derive your problem/address your research question, based on the review of existing knowledge, notably of theory. This procedure can certainly be modified, for instance when you are exploring a rather new field of inquiry, where theoretical conclusions can be derived from a single, empirical case, instead of going the other way round. How you structure your research concept mainly depends on the subject of your interest and whether this is already established in research, or whether it represents a rather new topic.

One practical but extremely important issue is *time*. Realistic management of your working capacities is crucial, since personal and collective experience reveals that in most cases you will need more time than you had initially expected. Remember to provide buffers, check your schedule on a regular basis, and preserve sufficient capacity! This is essential at least for two reasons: First, empirical work requires a lot of time, since most often you will be depending on others once ordering data, arranging interviews etc. Second, provide sufficient reserves of working capacity for doing *Step 5*, since this will be one of the most important steps of your research process: It sums up almost everything that you did before. This requires being efficient not only in terms of capacity to work, but also providing temporal distance to your draft, which allows you to better judge the outcome of your work. By the way, the final chapters including results and conclusions tend to be most relevant and intriguing from the supervisors' point of view, so keep in mind not to spend most of your energy on narrating common knowledge based on the literature, but to develop your own ideas and thoughts and give reason to your own findings.

Also, do not worry if research findings turn out to be different from your expectations. In practice this is the norm rather than the exception! Doing research means exploring the unknown, so you never know what will come out of your inquiry. And: a 'no' (meaning that a certain knowledge is not confirmed, a practice would not solve a problem) can be an even more striking answer to a research question rather than a 'yes', which everybody would like to confirm. Be open for finding out what you are really interested in, do not feel obligated to stick exclusively to the perspective of the textbooks or to established discourses, "Be curious, be foolish" (*Steve Jobs*, Stanford Commencement Speech, 2005).

2) Good practice of scientific reading

Any of our own examinations rests on the work of others. Regardless of whether you are preparing your own independent research or whether you plan to write a paper on a book, a famous author etc.: Nothing simply starts from scratch. Consequently, a systematic approach to handle existing text and data will be of major importance, most importantly by acknowledging the credits of those who did that. (As a result, in any case, please provide sufficient reference – doing *copy & paste* with or without citing authors is against the laws and ethical standards! It is also increasingly subject to sanctions exerted by university boards, so you are facing the risk of getting kicked out of academia when doing this.) The following list of bullet points may assist you in trying to distil the essence of existing knowledge:

- What is the subject of the paper/text?
- How could the specific approach of the author(s) be defined, what are their assumptions and pre-conditions?
- What are the questions author(s) seek to answer?
- What is the aim of the research? Is anything addressed by the text, explicitly, implicitly?
- What are the central terms and issues of the paper? What are their specific meanings? How are they defined?
- How about the central arguments/thesis presented by author(s)? How are these arguments structured?

- What are the major parts of the text that include such thesis?
- How about the underlying assumptions, which build the argument?
- Which are the opinions/normative assessments addressed by author(s)?
- How about the proof/evidence presented by author(s) supporting their statements?

There are certain features in contemporary publication practice that will help you to give reason to what you have read and to access the meaning of papers, book chapters and monographs. One is certainly the abstract, normally devoted to giving a brief summary of the whole work. Some journals such as those published by *Elsevier* (online) or the *Journal of the American Planning Association (JAPA)* have introduced extended abstracts that give more detailed information regarding the following points: What is the problem addressed by the paper? What was the method applied? What were the main findings? What are the key takeaways for practitioners? Taking this into account makes the content easier to access. Most essential sections are both the introduction, where the research is being justified and the problem will be addressed, and the conclusion, where findings and outcomes are summarised. Please also follow the author's standpoint by looking at his or her affiliation: is the work written by an academic or by a practitioner, or does it come from somewhere in between?

How to obtain the sources of the existing knowledge? Much of it can be retrieved from the libraries, on campus, but also from the National Library and of course on-line. The basic information for any successful scientific research will be delivered by the classical body of reference, primarily by handbooks and encyclopaedias (cf. the *Dictionary of Human Geography* or related sources in the planning disciplines), monographies and edited volumes, also by papers from refereed and non-refereed journals. Many of these books can be obtained from the library system, and also many e-books and journal papers can be retrieved from the Web (see the on-line catalogue e.g. at <*bibnet.lu*>). Particularly the *Metasearch*-section provides access to major publication platforms such as ScienceDirect (*Elsevier*), Springerlink (*Springer*), *Sage* or *Wiley-Blackwell* (for e-journals and to a limited extent for e-books). In some cases, current developments, statistics, and particularly local press-archives might be properly accessed from the Web. So in many but selected instances this is a standard source for obtaining an overview of the state of knowledge in related disciplines.

However: please be careful in the light of the myriad of black holes that do exist in the world of the Internet. Don't make yourself depending on web-sources only. Handbooks and encyclopaedias, books and journal papers are still the most essential and verified foundations of our knowledge. And: please don't believe to get reliable information from meandering sources such as *Wikipedia*. This is never ever a generally accepted scientific reference – sometimes entries are good and informed, others can be really lousy. This source also tends to be particularly unreliable, since it is easily manipulated and often subject to personal interests, at least more than it looks at the first glance. Hence Wikipedia-entries should not be cited in any of, at least, my own courses ... (i.e. the Modules MaGeo 02-11 and 18-62)!

3) The essentials: scientific writing

While reading is one essential activity you cannot avoid during your study, writing will be the other. So it is quite important to be prepared for this and to acquire your own capability, style and practice of writing. Good research rests upon the ability to bring things onto paper in a clear, concise and readable manner. Becoming an effective writer should be taken seriously. However, do not be afraid of this process, as you have already experienced academia and obtained a first university degree. So yes, you can. However, during your time with us we will give you all support you need for getting this further developed. For excellent advice on this issue see e.g. Blunt/Souch (2009) or Northey/Knight (2001).

Before getting started, the nature of the product has to be defined, based on the distinction made in the Anglo-Saxon system between two different ways of presenting findings: a *review paper* that subsumes the result of current state-of-the-art provides an overview of a certain set of knowledge, and also develops further research questions on the one hand; and a *research paper* that reveals the essence of original, primary inquiry on the other. While the first is usual practice with course assignments, the second applies more to your own investigation (e.g. a Master thesis). Some scientific cultures (like the German) are used to practise a mix of both, combining review and original research. However, the distinction between review and research paper, between existing knowledge and original contributions is essential, in both methodological and also research ethics terms (do we properly acknowledge the work of others?).

After having decided on the nature of the research to be conducted, it is essential to develop an *exposé* of a research paper – a short piece of about two or three pages that provides overview information on the research subject selected, a related question or problem, and on possible ways of inquiry. It will serve as a blueprint for discussion and re-visioning, particularly through the explication of the topical area and the description of the question or problem to be solved, thus it foresees the aim and structure of the paper. This is a sort of miniature of the entire elaboration. Afterwards, a definition of the core terms is required, in order to establish a common basis for discussion (transfer of existing definitions, establishment of own definitions, justification of the definition selected). In this context, the term *definition* has two different meanings: on the one hand, it is about the development of core terms/precise substance (if you want: the ontology of your subject); on the other hand, it elaborates the notion behind, the use of the terms, prescribed meanings, constructions etc. (if you want, its epistemic foundation). Core terms define the substance of the scientific work, their conscious use is considered essential for any research. The next step will include the task of structuring the paper, derived from the specific query and aim of the research: the generation of knowledge and the production of insight (*Erkenntnis*). Scientific work needs to reveal the specific logics within which the paper will argue and finally answer the research questions. Hence to some extent a scientific paper will be judged not only based on its original topical contribution, but also by its internal logic. A clear and concise structure of the paper will be required as early as possible, since it provides a further overview of the work and gives you an idea whether and how you will be able to conduct the study in more detail.

The classical structure of a research paper includes an introduction, the main chapter(s) and a conclusion. The introduction puts the issue that is at stake in the context of the research area and the discipline/s, it justifies the need for research and formulates the main questions and hypothesis. It also provides a short overview of the rest of the paper. Normally, either the introduction or a separate part of the main chapter(s) may include a discussion of relevant theories. The main chapter(s) will explain basic terms and concepts (definitions), make the research questions explicit and provide the context of the topic. Against this background, the main research hypothesis will be developed. In the next section, the choice of methodology, data selection and research procedure will be presented in more detail. Based on the empirical re-

sults (or theory-led discussion), the findings of the research will be discussed, both related to the own project and in the context of existing research. Finally, a conclusion on the lesson(s) learned will be added, also on issues that are not case-specific.

Haigh (2013, 117) has summarised his advice on how best to prepare a journal paper, in this case for the *Journal of Geography in Higher Education/JGHE*. This advice can also be taken for other cases where students are asked to provide a course assignment, or get closer to writing the master thesis. He formulated “10 golden ground rules for preparing a successful contribution” that include the following: “(1) have something interesting to say, (2) have something useful to say, (3) address your audience, (4) write with academic rigour, (5) listen to learner feedback, (6) ensure constructive alignment in your curriculum, (7) make your paper belongs to the journal’s community of discourse, (8) respect the mission of the journal, (9) expect to be set revisions and (10) deal systematically with any revisions set.” Be confident that you will have a chance to present your ideas in the classroom and get feedback from fellow students and teachers. This is an interactive process.

Also, there are formal aspects of presenting a paper to be taken into account. Despite some common rules that are defined by frameworks such as the *Oxford English Dictionary* or the *Chicago Manual of Style*, this issue tends to be handled rather individually, often depending on internal rules of an institution (such as an university) or the house style of publishers. Also, there are many reference guides available in bookstores and on the web that can be consulted. While absolute standards seem to be increasingly difficult to set, it looks reasonable to be consistent, e.g. not to confuse British and American English, and the like (by the way, at UL it is the British style). For citation, we generally recommend to use the *Harvard-Standard*, by quoting the name(s) of author(s) and the year of publication in the body text, in the case of original citations the page number as well. All the rest has to be placed in the references subsection at the end of the text (see as a template the references below). The criteria of accuracy in this respect are the clear, convincing and logically structured argument(s) presented, the transparency of the research process and how the findings have been developed, also the validity of the frame of reference, and finally ‘style’ in terms of precise observation and linguistically appropriate, but smart or lean expression of the findings. In the case of journal papers, it is also essential to check the instructions for authors.

4) How to 'present' your findings

The purpose of science is to address major questions and to seek for answers, or bring further questions to the fore, by combining theoretical justification, empirical inquiry and methodological rigour (or accuracy) given a certain subject. This ambition can be realised only through the open exchange of ideas and arguments, by sharing concurring positions and organising debate – succinct and precise in substance, critical in terms of assessment, moderate in tone. Such interaction is also a prerequisite for achieving one of the core criteria of the validity of science as such: the verification of matters or meaning among different actors. Hence the oral scientific lecture or 'presentation', which has become more popular lately, tends to be one of our most important means of communication and expression of thought, besides the scientific paper. Also, your personal career path will be increasingly connected with your ability to successfully convey substance, research results or conclusions to others. Remember that in so doing, you are also presenting your personality. The ability to create and deliver an informed, substantially convincing and stylistically balanced presentation of your research is considered a key qualification, both in research and in practice, a skill worth continually developing. The earlier you become accustomed to dealing with this challenge, the better the result. The classroom is one of the standard settings for learning in this respect, and we will give you as much of a comfortable and learning oriented environment as possible for dealing with this.

At latest if you are preparing or doing a PhD, you will be asked to actively attend conferences. Conference papers are something that researchers are used to prepare, not only as this is one of the main opportunity for letting others know about what you are doing. Conferences also offer a setting for developing new ways for your research. The particular value of conference participation is that, first, most audiences will respond to your work by making remarks, comments and critique. This is a great opportunity: regardless of whether their feedback positive or critical, it *always* brings you forward. Second, responding to calls-for-papers and wisely planned conference participation offer particular opportunities for strategically developing your research portfolio. Thus new topics can be 'tested' by presenting and discussing them at conferences or workshops first, then preparing a proposal or writing a paper based on these thoughts. Third, getting in touch with other people who do similar or compara-

ble things is always enriching yourself; talking to colleagues, sharing thoughts and ideas, getting started with collaborative 'projects' (such as joint papers, session proposals for following conferences etc.) is most often worth the effort of being prepared and travelling there, which should not be underestimated.

Much has been written about the ideal procedure of giving a talk, particularly in business and management, to some extent in science as well. More recently, the debate and – even more so – related practice have become rather occupied by the use of presentation software such as *Microsoft PowerPoint*, *Keynote* or *Prezi*. There seems to be no escape from the visual in any kind of conference, while the extent to which it is effective greatly varies (Hesse 2010). There is indeed good reason to be careful against its excessive use. It is useful in some instances, in others it is not, and it is by far not a must. In order to keep it short: presentation software can be helpful particularly in geography, spatial sciences and planning, by making complex issues and relationships visible through maps, graphs or plans. Any two- or three-dimensional issue is much better to communicate visually, rather than by using mere words.

In most cases, however, particularly once it comes to short presentations, you might be better off by talking about your core subject orally, perhaps assisted by a slide on the structure of your paper and some core findings and conclusions (please note that academia in English uses the phrase 'paper' for both a written piece and a statement at a conference). Here the more important issues are concerned with how to structure your presentation properly, how to cope with formal issues such as time or intonation, and how to avoid being too nervous during your talk. These are, however, not just formal things, but quite crucial for the purpose of reaching your audience. Firstly, the logical structure of an presentation or even full academic lecture is essential. A possible guideline can be taken from what is already told about the research paper (see above) or what can be considered the basics of scientific exploration as such: address a *clear question or problem*, explain the *theoretical background*, present your *methodology* and *empirical findings*, discuss these findings critically (both as such as in the light of the literature) and, most importantly, *return to your starting point* once you are reaching the end of your intervention. Please, never forget to provide this sort of loop and reconnect your findings with your initial research questions, interest and ambition.

Secondly, it is also extremely important to give your audience a chance to follow your thoughts; for them, these can be quite new, whereas for you the stuff is rather familiar. So assistance provided by visual elements, pictures, maps or videos *can* be helpful. The same applies to time: try not to speak too fast, but highlight those issues that are central to you. Please also make sure that things you want to show are coherent (otherwise skip it), and that your slideshow contributes to making your points clear; avoid hiding complex thoughts in a stylish corporate slideshow that leaves little space for showing the issues that are really at stake. Also, there is no need to bring your name, affiliation and the occasion of the paper on each slide – this can be boring or perceived as overly self-promoting! One may even re-think the usual “thank you for your attention” on a final slide: It might be both sufficient and straightforward just to speak it out, and instead leave your conclusion slide up during the discussion.

The issue of time is also extremely important, if not quintessential. This applies not only to scheduling as such, but again concerns your overall goal to reach the audience: Please plan carefully, avoid providing too many different issues for one occasion, and keep significant space for presenting your core findings, rather than wasting your energy (and the attention of the audience) on presenting large portions on introduction and background. Otherwise you may find yourself racing through your conclusions – exactly when it comes to the really important points the audience expects you to present. Also, avoid any overload of slides that is difficult to keep up with: “the machine should work for you – not the other way round!” (Evan McDonough). Concerning time, my personal rule of thumb is to prepare no more than 100 words per minute (minus ten per cent; significant detours into pics or plans have to be considered as extra time). Such limit has proven to be enormously efficient. Knowing that you are on a rather safe side in this respect may also let you approach your paper practice in rather relaxed ways.

Thirdly, the successful practice of giving a lecture is usually not being taught at universities, and most academics have started just with *learning by doing*. Some succeeded in this respect, while others have not. However, the only way to accomplish a certain level of proficiency is to practise. Please take your time and exercise, alone, at home, and together with fellow students. Try to start with a minor piece, a five minute elaboration of a certain issue or problem, and then try to expand according to the above scheme, try to give a more complex paper. When getting more expertise and

routine in discussing and presenting your thoughts against others, you may develop a sense of what the scientific method is about and how the related role of open, critical conversation can be played best. The good thing is that it will pay back by giving you most important feedback that will definitely improve your own work.

5) Getting started: write a paper, book-chapter or conference-paper abstract

Both the paper or book chapter writing process and the preparation of conference papers usually begin with, or end up, with writing an abstract. This is a short piece of work that circumscribes a problem or an elaboration and comprises on average a hundred or a few hundred words, whose importance cannot be overestimated. It is usually required to precede a journal paper, and authors who want to place a chapter in an edited book are also increasingly asked to provide an abstract. In many cases, submitting an abstract for acceptance is the hurdle that needs to be taken before planning for a conference, based on a more or less strict selection process of the organisers. Only in very few cases (e.g. AAG conferences in the U.S.), is everything that is submitted accepted into the programme.

It is worth spending some time on creating this short piece of work that often marks the starting point of what is becoming an interesting conference topic or a full academic paper afterwards. Based on our discussion in the Geography and Spatial Planning PhD Seminar within IPSE's Doctoral School (from which this final section got inspiration), and in addition to the general sources on academic writing referred to below, we present a few practical points that may help everybody who is preparing for a conference or workshop. In this context, we distinguish two different steps: first, the reflection of the subject matter and the preparation of a topic, and, second, the writing process as such. As it seems generally the case in the writing process, only the combination of the two will bring the case to the fore.

1) Reflection

- Does my topic fit with the organisers' aims, the conference themes or the call for paper/session contributions?
- Does the topic fit with my own research/publication strategy?

- What do I have to offer: will that be existing material that reports on projects, research or reflections I did so far, or will be new material presented that challenges my own creativity or productivity?
- If I opt for the new, do I have sufficient capacity to get it done before the conference/deadline?

2) Writing

The abstract is an important part of your envisaged or existing work and functions as a sort of business card. Hence it is highly important and should not be underestimated. A convincing abstract needs particularly:

- an appealing title that should be both as telling and as short as possible,
- a clear structure, ideally consisting of 5-6 sentences that conform to the word limit for conference-abstracts (e.g. 250 words at AAG- or IBG-conferences),
- the first sentence, most importantly, is readers' eye-catcher, making a statement on the subject matter or on your particular hypothesis,
- the second sentence refers to the given state of knowledge in this area,
- the third sentence claims for missing links or blind spots in this area – this is your justification to deal with it,
- the fourth sentence makes the way you are planning to deal with the topic more explicit,
- the fifth sentence denotes the character of your work (conceptual, theoretical, empirical), indicating the underlying research, if applicable,
- the sixth sentence closes the abstract with a statement on your argument, a particular critique of the given state of knowledge or the direction where future research and debate should be going.

Would you like to learn more about this? Many conference programmes are now accessible on the web (e.g. www.aag.org; www.rgs.org; www.dkg2015.huberlin.de), so look into how conference presentations are announced, framed and synthesised, with the help of abstracts.

That's all for the moment. Please don't hesitate to ask us for further clarification or whenever a problem arises: it is our job to be available (even if on-line) and to help you out. In the case of any upcoming problem – please do not be shy and keep it to your self. Do not assume that you are the only one facing problems in the process of applying the scientific method. This is a never-ending learning process for everybody, so barriers and problems are quite common. Just communicate with your colleagues and to us.

Recommended reading

Blunt, A. and C. Souch (2009): *Publishing and getting read. A Guide for New Researchers in Geography*. London: Royal Geographical Society (RGS) with The Institute of British Geographers (IBG). NOTE: This brochure is extremely instructive for making your first experience with scientific writing and also publishing; available on the Web: www.rgs.org.

Flowerdew, R. (2005): *Methods in Human Geography: A guide for students doing a research project*, 2nd Edition. Prentice Hall: Pearson.

Gregory, D.; Johnston, R.; Pratt, G.; Watts, M. and S. Whatmore (eds.): *The Dictionary of Human Geography*, 5th Edition. Oxford: Wiley-Blackwell. NOTE: The standard encyclopaedic source for anything relevant in human geography.

Northey, M. E. and D. B. Knight (2001): *Making sense: a student's guide to research and writing: geography & environmental sciences*, 2nd Edition. Oxford and New York: Oxford University Press. NOTE: This book is very useful but out of print; we organised a copy that will be made available to you electronically/via the Moodle-platform.

Ward, K. (2014): *Researching the City*. London: Sage. NOTE: This piece is extremely helpful for graduate and undergraduate students who are asked to develop their own research method and methodology (and even for PhD-students when looking for overview instructions).

Further References

Baade, J., Gertel, H. and A. Schlottmann (2005): *Wissenschaftlich arbeiten. Ein Leitfadens für Studierende der Geographie*. Bern: Haupt (UTB). NOTE: available in German only.

Brink, A. (2013): *Anfertigung wissenschaftlicher Arbeiten. Ein prozessorientierter Leit-faden zur Erstellung von Bachelor-, Master- und Diplomarbeiten*. 4th edition, Berlin and Heidelberg: Springer Gabler. NOTE: while this book is also available in German only, the publisher promised to provide an English-'e-booklet' on the website that guides the English-speaking customer through the volume and will thus give some instructions to the process of scientific writing.

Clifford, N. and G. Valentine (eds., 2003): *Key methods in geography*. London and Thousand Oaks, Calif.: Sage Publications.

Cooper, H. (1998): *Synthesizing research: a guide for literature reviews*. Thousand Oaks, Calif.: Sage Publications.

Dunlevey, P. (2003): *Authoring a PhD. How to Plan, Draft, Write and Finish a Doctoral Thesis or Dissertation*. London: Palgrave Macmillan.

Fink, A. (2005): *Conducting research literature reviews: from the Internet to paper*. Thousand Oaks, Calif.: Sage Publications.

Hart, C. (2001): *Doing a literature search: a comprehensive guide for the social sciences*. London; Thousand Oaks: Sage.

Haigh, M. (2013): Writing successfully for the Journal of Geography in Higher Education. *Journal of Geography in Higher Education* 37(1), 117-135.

Hesse, M. (2010): Vielen Dank für Ihre Aufmerksamkeit, oder: Ist PowerPoint böse? Eine Stilkritik. *Rundbrief Geographie* 222 (Januar 2010), 22-24. NOTE: in German only. This commentary evolved from a particular frustration by listening to an increasing amount of overloaded PowerPoint-presentations, which simply fail to convey a message. Section 5 above gives a summary.

Johnson, W. B. & Mullen, C. A. (2007): *Write to the top! How to become a prolific academic*. New York: Palgrave Macmillan.

Kitchin, R. & Fuller, D. (2005): *The academic's guide to publishing*. London: Sage.

Parsons, A. and P. G. Knight (2005): *How to do your dissertation in geography and related disciplines*. London; New York: Routledge.

In the case some sources are difficult to obtain from the library, methods books, writing style guides and the like are also available on the Web. Also 2nd hand-platforms such as *abebooks.com* or others offer a broad range of cheap books – often older editions for just a few dollars or euros, but highly useful for getting started.

Acknowledgement

Thank you to Evan McDonough for proofreading.