

Political Science in the Digital Age
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This paper comprises a draft as concerns the examination reported. The readers are kindly requested not to quote the paper. A fuller version of the study is envisaged.

**The Situation of Research and Teaching in the Discipline of Political Science – Finland:
Facing the Digital Revolution**

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1. Introduction

This paper has been written for a panel of a roundtable. According to the organizers (Appendix 1.), the papers should focus on the interface between the digital revolution and political science. Each paper is supposed to cover both the teaching and learning of political science and political science research along four dimensions: general information; content aspects; institutional aspects; and desiderata, possible perspectives, and risks. Moreover, the participants were asked to consider specific country conditions.

This paper on Finland is organized into five sections. After the introductory section 1., the concepts, the method and the research material are considered in section 2. In the body of the paper only a brief is presented on the country conditions in section 3., but supplemented with Appendix 2. Research comprises the theme of section 4., and teaching and learning are considered in section 5. A conclusion and discussion section will be written during the further refinement of this text.

2. Concepts, method, and research material

No evolved conceptual framework is available to consider research, teaching and learning of political science and their relationships to the digital revolution. However, selected concepts are

useful (Table 1.). In the table is distinguished a domain that has to be ignored in this examination (cell 1.A.); two cells in which either digital methods (1.B.) or digital phenomena (2.A.) are present; and a doubly digital cell (2.B.). The table does not cover the common simultaneous presence of non-digital and digital phenomena, nor to situations with mixed non-digital and digital methods.

Table 1. Non-digital and digital aspects of research, teaching and learning, with examples.

	1. Research, teaching and learning concerning non-digital phenomena	2. Research, teaching and learning concerning digital phenomena
A. Non-digital research, teaching, and learning	<p>1.A.1. Using non-digital traditional humanistic, newer qualitative and mainstream quantitative methods to examine non-digital phenomena (examples irrelevant to present in this examination)</p> <p>1.A.2. Teaching and learning non-digital methods. or research results obtained using these methods concerning non-digital phenomena (examples irrelevant to present in this examination)</p>	<p>2.A.1. Using non-digital traditional humanistic, newer qualitative and mainstream quantitative methods to examine digital phenomena (examples: digital ethnography; qualitative or mainstream quantitative examination of smaller samples of social media data)</p> <p>2.A.2. Teaching and learning non-digital methods or results obtained using these methods concerning digital phenomena</p>
B. Digital research, teaching and learning	<p>1.B.1. Using digital methods to do research on non-digital phenomena (examples: digital such as computational examination of texts originally evolved in a non-digital form but later digitized)</p> <p>1.B.2. Teaching, learning or practically utilizing digital methods for the examination of non-digital phenomena</p> <p>1.B.3. Teaching and learning research results obtained by means of using digital methods to examine non-digital phenomena</p>	<p>2.B.1. Using digital methods to examine digital phenomena (examples: automatic extraction of social media contents, and further computational examination of these contents)</p> <p>2.B.2. Teaching, learning or practically utilizing digital methods for the examination of digital phenomena</p> <p>2.B.2. Teaching and learning research results obtained by means of using digital to examine digital phenomena</p>

Shall we accept traditional procedures of academic discourse as methods, in preparing this paper a certain type of method has been applied. In any event, a method of obtaining the research material has been applied. The questions of Appendix 1. were passed to a political scientist with a doctoral degree – a professor or not – in five of the six universities in Finland in which political science is present. The author of this paper replied on behalf of political science at his university.

This paper has not been burdened with references to documents available only in the national languages of Finland, Finnish or Swedish. All in all, very few references have been provided. Given

the prospect that a monograph will be edited of papers of the present kind, giving reasonably full references and a sufficient bibliography later can be envisaged.

3. Summary of country conditions for Finnish political science facing the digital revolution

Political science is currently offered at six universities in Finland (Table 2.; for some more details, see Appendix 2.). The total personnel of political science comprised about 130 persons in November 2017. To this figure could be added active professors emeriti and the active ones from among those docents who are not employed at any university.

Table 2. Institutional characteristics of political science in Finland, November 2017.

Universities: Characteristic:	University of Helsinki	University of Turku	Åbo Akademi University	University of Tampere	University of Jyväskylä	University of Lapland
1. Students	32 000	25 000	7 000	23 000	14 000	4 000
2. Faculty	Social Sciences (A)	Social Sciences (A)	Social Sciences (A) & Economics	School of Management	Humanistic & Social Sciences (B)	Social Sciences (B)
3. Program	Politics & Communication	Political History & Political Science	<i>Statskunskap</i>	Political Science	Social Sciences (B) & Philosophy	Political Sciences & Sociology
4. Professors	6,5	4	3	4	4	1
5. Univ. lecturers	7	1	3,5	5	1	4
6. Lecturers & c.	0	2	2	1	2	0
7. Others	25	10	2	26	18	1
8. Total personnel	38,5	17	10,5	36	24	6

Explanations:

The sources of the table comprise university public domain websites. Fractions of numbers indicate positions divided between political science and some other domain. All political science exists in the main locality of the university except for Åbo Akademi, whose branch in the town of Vaasa also offers political science.

1. Total number of students, without conversion to FTEs (full-time equivalents), rounded to the nearest 1 000.

2. The location faculty of political science: The terminology derives from German (see Appendix 2.), and cannot be fully rendered in English; Social Sciences (A) = *Staatwissenschaften*, Social Sciences (B) = *Gesellschaftswissenschaften*, *Statskunskap* (Swedish) = *Staatslehre*, and Political sciences = *Politikwissenschaften*.

3. The location of the Master's program of political science. Both Helsinki and Tampere have two political science tracks in the programs in which political science is located, titled political and organizational research on the one hand and on the other world politics in Helsinki, and *valtio-oppi* (*Staatslehre*) and international politics in Tampere.

4. Includes both tenured and tenure-track professors, meaning positions filled with an external expert procedure.

5. University lecturers, all tenured, meaning positions filled without an external expert procedure.

6. Rare positions of lecturers and university teachers, tenured or non-tenured.

7. For instance, research directors, postdoctoral fellows, salaried doctoral students, and researchers in projects. This is the hardest group to estimate numerically, as some universities do not indicate the disciplinary field of some of the researchers they employ.

8. Total from 4. to 7. No administrative personnel are included in the figures. The figures do not include, either, emeritus/emerita professors or docents. Some of the docents may be university lecturers, lecturers or university teachers, and therefore included in the figures. However, most are external to the university that has awarded the docent title, and possibly with no employment at any university.

At two Finnish universities (Åbo Akademi and the University of Tampere) the teaching and learning of political science is situated in a dedicated Master's program of its own, at two universities (Helsinki and Jyväskylä) it comprises one (Jyväskylä) or two (Helsinki) tracks of a program that also includes other disciplines. The situation at the University of Turku is analogous although not quite identical with the situation in Helsinki and Jyväskylä. The small collectivity of political scientists at the University of Lapland works closely together with other disciplinary fields, including the social sciences in a specific sense (*Sozialwissenschaften*).

4. Political science research in Finland facing the digital revolution

4.1. General

4.1.1. Has any digital revolution taken place? – Some of the respondents questioned the notion of a “digital revolution”, either seeing only an instrumental transformation by and large, or a gradual process instead of a rapid turnaround. However, also intermediate standpoints came up, such as the following: “It is an essential aspect that needs to be integrated in research” or suggesting that there be “problems in the transition period”.

4.1.2. Remarkable changes after all. – Several respondents underlined that scholarly articles, e-books and substantial datasets are nowadays available online and that e-mail and other media of e-communication between scholars have been mainstreamed already. However, some respondents also noted that not many of the Finnish political scientists examine digital research topics intensively or intensively utilize advanced digital methods, such as extract social media data to examine these data by means of computational methods.

4.1.3. Limited rather than profound changes in research. – Several of the respondents mentioned digital influences upon the proliferation of joint authorships and publications and new types of

project consortia. However, the situation of political scientists was not seen as fundamentally different from other social scientists.

Most Finnish political scientists have never examined digital topics, and only a handful does so currently. For none of Finland's political science professors does digital communication comprise more than one of his or her fields of interest at the most, and for most professors no field of interest all. For a few other scholar-teachers, digital communication comprises their main study object. The same concerns a handful of salaried doctoral students and project researchers. Optimism was expressed by some of the respondents: "I would definitely call it an increasingly important and visible area. I am aware of a number of publications, ongoing projects and project applications".

The number of attendances of Finnish political scientists in conferences in which digital issues have been examined undoubtedly and greatly exceeds the number of their presentations proper in these conferences on digital topics let alone the low number of refereed publications in this field. Digital issues have comprised only one of the dimensions in funded research projects by Finnish political scientists thus far rather than the main theme, and no theme at all in most research projects.

4.2. Content aspects of research

4.2.1. Not ample thus far. – The research published by Finnish political scientists on digital topics is not ample thus far, especially as concerns international publications. Research themes of publications or project mentioned in the survey included, for instance, the following (see also the references at the end of this paper):

- The political aspects of the social media
- The influence of pre-electoral interest group social media discourse upon the political program of the government formed after elections
- Quality of discourse in social media
- Electronic voting
- The use and ownership of data

- Opening government data
- “Cyber” themes such as cybersecurity, cyberwar, and hybrid warfare
- The examination of political documents such as party manifestoes, the political programs of Finland’s consecutive governments and public policy planning and evaluation documents by computational methods
- Political speeches examined by means of digital methods
- Digital divide phenomena

4.2.2. *Political scientists or scholar of communication?* No real boundary exists between the “digital” research themes, approaches and methods of Finnish political scientists on the one hand, and on the other hand scholars of communication (see the reference list at the end of this paper). What the latter have published, could as well have been written by political scientists. Moreover, occasionally political scientists and communication scholars have written together, or have written as member of wider multi-disciplinary teams of authors.

4.3. Institutional aspects of research

4.3.1. *No formidable institutional change.* – Institutionally, the “digital revolution” has had no profound impact in Finnish political science thus far. The Finnish Political Science Association has no sections, and therefore a “digital” section could not have been founded in the first place. In the annual conference of this association workshops on digital themes have been organized over the years, but no systematic trend upwards is visible. Paper on digital themes also often spread out over other workshops.

The Finnish markets of academic publications are minuscule. Series of publications are rare. No such series have evolved on digital let alone digital political themes. Individual books on digital themes have been published, however, including books that include political analysis. Only one general political science journal is traditionally published in Finland, *Politiikka*, and there is not enough market for a political science journal on digital themes. *Politiikka* is currently considering to turn digital, but this only concerns the publication form, not the contents. Several journals are published in Finland on foreign policy-making or world politics, but none on digital themes, either. However, it has happened that Finnish citizens have gained positions in the editorial offices of

international journals on digital themes, including social science themes with political characteristics.

4.3.2. The incentive is to publish internationally, not at home. – The attraction to publish political science research on political themes in Finnish scholarly journals is limited, although such publication has taken place. The incentives to publish in international refereed journals have been constantly growing. Publishing on political digital themes in such journals has the priority. However, the number of such publications by scholars from Finland in such journals is not high thus far, let alone such publications by political scientists proper. In the survey, one possibility envisaged comprised the gradual mainstreaming of research on digital themes and research utilizing computational and other digital methods with the ultimate effect that the “digital” aspects would in the final end be no more seen as anything special and separate from other themes.

No political science research centers or such centers with political science participation on digital themes have evolved in Finland. One gets almost the impression that political science and political scientists have been bypassed insofar as centers or networks for such purposes as computational social research have been established or contemplated. In the survey, one of the respondents paid attention to the establishment of new think tanks in Finland to supplement the pre-existing think-tank “vegetation”. Many of the new think tanks, typically affiliated with a political ideology although possibly no political party, are active in respect to the social media, including active social media users themselves. However, these developments are not those of academic political science. Neither are those developments truly academic that comprise the activation of some of the Finnish political scientists in the social media such as Twitter make political commentary.

4.3.3. The blurred dividing line between political science and communication. – As has been indicated, scholars of communication working in Finland have more visibly more than political scientists published on digital political aspects in international refereed journals and in edited monographs by well-reputed international publishers. Although co-authorships between political scientists and communication scholars have occurred, the scholars in the two fields have rather published separately. However, in the survey the Finnish National Election Study was mentioned as an arena of cooperation between scholars representing both domains. Moreover, both political

scientists and scholars of communication use the same techniques to extract data from the Internet, and may also use the same computational and other digital and other methods to examine their data. Therefore de facto convergence can be expected even where cooperation does not take place.

For institutional reasons, political science and communication are more interconnected at the University of Helsinki than at other universities offering both two academic fields. Since 2017, the Bachelor's and Master's programs at Helsinki are joint Politics and Communication programs. However, Doctoral training takes place separately in both fields. Signs are visible that political scientists and scholars of communication in Helsinki, and especially those of the younger generation, frequently find each other and join the same projects.

4.3.4. A tradition of Einsamkeit. – In the Finnish case, research on digital political phenomena is often carried out separately within individual disciplines at individual universities rather than by means of larger multi-disciplinary networks and groups. The academic tradition of *Einsamkeit*, strongly established in the small scholarly circles of Finland, appears seriously to prevent cooperation even between scholars studying similar themes or using similar digital such as computational research methods.

4.4. Desiderata, positive perspectives, and risks

4.4.1. A tight situation in academia. – From the viewpoint of their research, the universities in Finland find themselves in a tight situation. Despite that since 2010 they are independent legal entities with liberties to act like business companies if they so choose, they are really no less dependent on government funding than they used to be, as the possibilities to win other than government basic or project funding (see Appendix 2.) are very limited. In such fields as political science, whose output hardly can be sold in the commercial markets in the mass scale, the dependence on the government funding is especially strong.

The Finnish universities had to compete of the same scarce government funds before 2010, and they no less have to do the same nowadays. Besides basic funding, this concerns even more this project funding, which, like the basic funding, mostly derives from the Finnish government. The

regional separation of the Finnish universities, constituting a network spread out, and the small scale of all units with political science including the two largest ones, comprise aggravating factors. Moreover, the possible lack of cooperation between institutionally separated disciplines even at the same university exerts a negative impact. Last, the strong incentives to publish political science research abroad in English rather than in Finnish or Swedish in Finland contribute to some degree of isolation of the digital and their political science scholars from their real-world national habitat and its citizens, and may lessen the legitimation of political science research.

4.4.2. Opportunities. – One of the survey respondents provided quite a comprehensive deliberation:

“As a technologically advanced Northern, peripheric, sparsely populated country, Finland can both win and lose from digitalization. Much depends on the ownership and control of the platforms, whether globally concentrated or locally de-centered, private or public. Public debate and even civil society itself increasingly takes place on the digital platforms. I think there is a willingness to see the impact of digitalization in this respect. At the very least, Finland could be an interesting case example; more than that, it could be a forerunner of some aspects of the study of the digital aspects of politics and civil society.”

There are also smaller challenges. One of these comprises mainstreaming of basic command of computational methods, starting from reading knowledge of research made using these methods. Moreover, a better readiness of political scientists to examine computational phenomena such as the influence of algorithms and other digital phenomena is another challenge.

4.4.3. Smaller challenges. – As to digitalization, consecutive Finnish governments have launched numerous policies over the years. Fifteen to twenty years ago Finland was supposed to become the world’s leading “information society”, or, according to some, even the foremost “knowledge society”. The government that has been in office since the parliamentary elections in 2015 announced a great “digital leap”. In 2017, the government also launched the preparations of a national artificial intelligence program. However, as one of the survey respondents proposed, gradual and usually slow spontaneous change has taken place rather than “quantum” leaps.

5. Teaching and learning political science in Finland facing the digital revolution

5.1. General

5.1.1. Gradual rather than revolutionary. – In more than one of the survey responses it was denied that any “digital revolution” would have taken place or would take place in Finnish political science. “The question is about gradual movement towards using ever more digital tools in teaching”, was the view of one of the respondents. Changes had been seen to take place with moves towards digital mediation in daily communications, delivering teaching materials to students, and in organizing examinations to students. However, less or no change was seen to have taken place in the background thinking, as lectures, seminars and written examinations still take place, and student essays, theses and dissertations still are written. Moreover, the continuing importance of face-to-face teaching methods was emphasized.

5.1.2. Many changes anyway. – Many procedures of university teaching and learning have indeed been digitalized in Finland. These include, for instance, the self-registration of students to study units, their courses and examinations, the documentation of the study requirements by means of intranet applications, e-learning platforms that many teachers use in their courses, and many of the examinations to the students. Moreover, digital technology has added to the number of channels through which teaching can be offered. However, the digital technologies are generic, and not limited to political science. Different scholar-teachers of political science have reacted to the digital revolution differently: not more than a few are digital natives, some have made important steps within the limits of their competencies, interests and time; some have been cautious; and a few prefer traditional methods such as in-class lecturing and pen-and-paper examinations.

Åbo Akademi is a special case among the Finnish universities offering political science in that it has a subsidiary in the town of Vaasa 330 kilometers north from its main location in Turku. Videoconferencing is extensively utilized to help overcome this distance. Political science at Åbo Akademi also utilizes videoconferencing particularly for doctoral seminars.

5.1.3. Limits, again. – Digital themes are no more rare in Master’s theses of political science in Finland, although only occasional thus far in Doctoral dissertations. However, not many of the scholars-researchers have much concentration in digital questions in their teaching. This is most evident as concerns computational a.k.a. artificial intelligence a.k.a. data-analytical methods.

Arguably, in Finnish political science digitalization has made advances mostly in rationalizing previous non-digital practices. An examination taken in a specific space in front of a computer is still an examination to answer questions written by the teacher who will grade the answers. A syllabus is a syllabus even if available through an electronic platform, and a student paper is a student paper whether printed and distributed by hand, or distributed via an electronic platform.

Each scholar-teacher can freely choose if he or she will digitalize his or her teaching maximally up to the strong integration of digital tools and consequent influences upon course formats, to do so only to a certain extent, or to do as little as possible. The Moodle platform (see section 5.3. below) is the most common e-learning platform used in political science in Finland. All scholar-teachers certainly use e-mail or participate in such polls such as those of Doodle. However, while some tweet to the knowledge of the general public or use the Facebook for communication with colleagues, many absolutely do not.

5.1.4. Uneven change. – Individual teachers of political science have utilized You Tube clips in their teaching, for instance. Some of them also have organized courses in computational methods, whether or not they themselves have carried out the teaching or any part of it. Political science MOOCs could not be traced in the research for this paper. “Network” courses, that is, courses distributed over the Internet certainly have been organized in Finnish political science. Often such courses have been organized by the extension studies of the universities rather than the “line discipline” that has the main responsibility for Bachelor’s and Master’s education.

One gets the impression that digital tools are too often used to do what used to be done without digitalization. Teaching and learning computational methods is currently patchy or practically non-existent in political science at some of the Finnish universities. Extensive digital or digitized datasets are unlikely to be widely used in Finnish political science, either, although there are

exceptions. Moreover, it is one thing to utilize such datasets in research and another to utilize them in teaching and for the benefit of student learning.

5.1.5. Steep digital learning curves. – According to experience, the digital tools of teaching and learning often pose a fairly steep learning curve to some of the scholar-teachers. This steepness also depends on the demands of the particular tools. Limitations also arise from considerations of appropriateness. For instance, it is generally not seen as appropriate that a teacher of political science at a Finnish university would use a closed Facebook group in his or her teaching.

One of the respondents replied to the question on the possibility of improving the digital tools as follows:

“I think they could be. Sometimes they should be simpler instead of more sophisticated; the majority of teachers and students would probably be happy with a rather limited selection of simple but reliable and effective tools, something like the original philosophy of Apple. Very often minor obstacles like difficulty get authorizations, multiple passwords, menus with ‘too many buttons’, insufficient instructions, etc. seem to prevent more widespread use.”

Downright technical problems of the digital tools were also mentioned in the survey. Sometimes the applications simply are “down”, and “bugs” also appear. Experiences on the truth of the claims to save scholar-teacher time by means of the digital methods were mixed. The conclusion rather was that the tools made the preparation and the delivery of the teaching substantially more laborious than traditional methods. However, for controlling student attendance and performance the tools were seen to provide assets on the one hand, although on the other student complaints of the workload in digitalized courses are common.

5.1.6. Despite differences, substantial homogeneity. – Differences prevail between the organization, contents and scale of political science at Finland’s different universities (Table 2.). However, what one of the survey respondents wrote is likely to hold true to a substantial extent:

“I do not think that the differences are very big. To my knowledge, most universities use broadly similar teaching tools, databases, etc. This is probably because of the remnants of the

old state university tradition, similar financial model and incentives, and attempts to coordinate or centralize service acquisitions in order to save money or to get better compatibility.”

Strategies have existed and exist for introducing, strengthening, or complementing digital teaching and learning tools in Finland. According to a survey reply:

“On the national level, a highly ambitious and expensive project called the ‘virtual university’ was introduced more than a decade ago, but it was largely a failure. Since then, ... the efforts have been more modest and gradual, such as the encouragement of open access publishing or the recent investments in digital humanities. Some of them will probably lead into the development of new digital teaching and learning tools... .”

As a recent development, the Finnish government that stepped into office into 2015 indicated “spearhead projects” in its general political program. One of these projects comprises the digitalization of teaching and learning at the universities. In actual practice, the project has been implemented by means of the results contracts that the Ministry of Education concludes with each university. The funding comes from the “political and policy funding” paid from the government budget to the universities (see Appendix 2., section 4.).

5.2. Teaching and learning contents

5.2.1. Slow rather than rapid changes. – One gets the impression from the survey results that the notion of a “digital revolution” is seen as jargon from which many scholar-teachers in Finnish political science take distance. Digital topics and themes are more likely to come out among other themes in study units and their courses rather than as such and alone. Digital methods let alone their hard core comprised of computational methods are not taught in Finnish Master’s programs of political science systematically thus far. However, computational methods have been covered in ad hoc courses of Master’s education and Doctoral training in political science, for instance.

5.2.2. Not mainstreamed yet. – One respondent emphasized the desirability of multi-method teaching and learning, which would make digital and other methods coexist. According to another

respondent, superficiality is a threat once digital methods are taken up in teaching and learning. According to the same respondent, much depends on contingent local circumstances, such as the orientation of political science at a given university and the interests of individual scholar-teachers.

Some digital themes have been mainstreamed. For instance, one respondent indicated that earlier, specific e-democracy courses were offered, whereas the theme is now embedded in courses on democratic innovations.

In the survey, opinions varied as concerns the sufficient inclusion of digital themes and methods in Finnish political science teaching and learning. According to some respondents, the coverage is sufficient, some respondents wished moderate additions welcome, but some saw serious gaps to fill. Unevenness in the survey replies is understandable, as issues related to the “digital revolution” are left to the discretion of the individual scholar-teachers, and especially those who have tenure. Should there be no one at a given location offering political science to take into account digitalization, including computational methods, big data, and so on, and seeing these phenomena as important, little would be bound to happen. A single enthusiast here and there is also unlikely to be enough to accomplish changes.

5.2.3. Obstacles and gaps. Lack of up-to-date and accessible research and textbooks came up in the survey. It was also seen as hard to talk about digital technological developments using vocabularies of the humanities and social sciences. One respondent commented that there is too little focus upon the large actors (Google, Facebook, Instagram, Twitter) or governments. This implies an excessive emphasis upon micro actors such as masses of social media users.

5.3. Institutional aspects of teaching and learning

No professorships or university lecturerships have been created in Finland thus far in such fields as politics and the Internet, e-Government, or the computational analysis of politics. One of the first professor’s positions in computational social research in Finland was filled in 2017 at the University of Helsinki, but definitely outside political science. It must also be noted that earlier

activities including a political science subprogram on information systems research in Helsinki have faded away during the years.

E-learning programs developed in Finland exist, but most universities use public domain or commercial solutions (Table 3). The public domain environment Moodle is the most common e-learning solution. Adopting e-learning environments is in no way limited to political science, which rather applies solutions that the faculty or the university make available.

Table 3. Digital learning environments used at least at two Finnish universities offering political science (adapted from Tikkanen 2016).

	HY	JY	LY	TaY	TY	ÅÅ
Adobe Connect (Pro)		X	X	X		X
Moodle	X	X		X	X	X
MS Office 365		X		X		
Optima		X	X			
Skype (for Business)		X				X
Wiki		X	X			
Yammer	X	X				

Thus far it has not been possible to find out if any MOOC has ever been organized in political science in Finland. Courses utilizing resembling methods have been arranged, though, called “verkko-opetus”, “network teaching”. Such teaching may include, for instance, possibilities of students to distant learning by means of following lectures that have recorded and distributed over the Internet. However, opinions differ as to the virtues of such practices, as there is no possibility of personal student-teacher feedback during the teaching.

5.4. Desiderata, positive perspectives, and risks

The Finnish government will have a national artificial intelligence strategy formulated by the turn of 2017 and 2018. This program offers opportunities also for political science, at least in principle. However, it looks as if these opportunities have been hardly acknowledged in political science thus far.

The hard core of digital advances, such as computational methods to utilize both for examining “big data” and “small data”, appears to advance in Finnish political science in an uneven and patchy way. It is hard to see an easy solution to problems like this.

According to one of the survey respondents, teaching and learning should not be contemplated on the principle “the tools first”. One should rather start from the goals and objectives of the learning and next consider how to advance. Insofar as, for instance, e-learning or computational methods appear as promising means to the ends, they should be legitimately applied.

Individuals with strong enough will, sufficient support networks and contacts, enough of time and good luck are likely to push through changes and at least in the medium run. In the survey, the top down governance by the Ministry of Education and Culture towards each university and the top down governance of each university were generally seen as obstacles instead of sources of opportunities. Opportunities for bottom-up innovation were seen as insufficient, on the other hand.

In general, in the survey made for this paper more research was requested for the adequate grounding of teaching and learning on digital political themes. Many of the problems specified in the survey derive from the inertia of the universities, their institutional structures, and their decision-making. It became also evident that differences of opinion between political are not uncommon concerning these issues.

From among the risks one can mention the signs that scholars of communication rather than political scientists evolve as those who examine digital politics by means of computational and other digital methods, threatening political scientists with a certain degree of marginalization. Last, the general lack of intellectual and material resources in the small country of Finland with its dispersed network of universities was emphasized as a problem in the survey made for this paper.

References

The references section is provisional. Expecting the preparation of a full version of the study made, only few selected references are included. Note that the text is not yet referenced in its body; i.e., there are yet no references in the text to almost any of the below entries.

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Appendix 1. Guideline for the Regional Roundtables: The Questions to Answer

Teaching and Learning:

General information: What role does the digital revolution play in the teaching and learning situation in your country? To what extent are digital tools or online based communication/interaction integrated in the teaching methods? Could/should digital tools be more sophisticated? What are your experiences with these digital tools of teaching and learning? Would you say that there are big differences between the universities in your country in this regard? If yes, why is this so (federalism, financial resources, etc.)? Are there strategies - on a national level or at subnational level - for introducing, strengthening, or complementing these digital teaching and learning tools?

Content aspects: Is the digital revolution an issue covered in the political science curricula of universities? Is digitalization sufficiently covered? If not, are there specific reasons for that?

Institutional aspects: Have professorships been created in this area (like Politics and Internet etc.)? Did universities develop their own e-learning programs or similar things?

Desiderata, positive perspectives, possible risks: What are the desiderata in your country? What positive developments do you expect in terms of digitalization and political science in your country? What are evident problems or future risks to be expected?

Research

General information: What role does the digital revolution play for the research situation in your country? How do digital communication/interaction or digital tools and procedures influence the research situation of political scientists in a general way and what are specific impacts of digitalization? Have digital communication and interaction (its implications, its effects for participation and political processes, its institutional context, usage, economic context) become an issue for political scientists in your country? To what extent? How would you assess the quantitative activity of political scientists referring to those issues (as indicators one could use publications, presence on conferences, research projects)?

Content aspects: Are there specific aspects of digital communication and interaction in politics (its implications, its effects for participation and political processes etc., its institutional context, usage, economic context) that the research in your country focuses on? Can you identify these aspects?

Institutional aspects of research: Have new 'sections' been created at National Associations of Political Science? Did publishing houses react to the new issue and offer new series? Have new journals for digital aspects in political science been founded? If not, where can or where do scholars of political science publish their articles on digital aspects? Is cooperation between political scientists with scholars of communication or media science more often than before? More intense? Or are there developments insulating them from each other? Have there been founded new research centres in or beyond universities dedicated to issues of political science and digital aspects?

Desiderata, positive perspectives, possible risks: What are the desiderata in your country? What positive developments do you expect in terms of digitalization and political science in your country? What are evident problems or future risks to be expected?

Specific conditions or circumstances in your country regarding teaching or research of digital aspects in political science.

Appendix 2. Country conditions in Finland for political science facing the digital revolution

1. Historical background and nomenclature

Political science became an academic discipline earlier in Finland than in most other European countries, receiving its first professors in the 1920s and the 1930s at three academic institutions. Further three universities started political science in the 1950s, 1960s, and the 1980s, respectively (see Table 2.).

Most of the disciplinary nomenclature of political science in Finland derives from German by means of direct pre-1933 translations. The best established discipline name for political science in Finland, *yleinen valtio-oppi* or *allmän statslära*, derives from *Allgemeine Staatslehre*. The faculty name *Valtiotieteellinen tiedekunta, Statsvetenskapliga fakulteten*, at two Finnish universities, derives from *Staatswissenschaftliche Fakultät*. The name *statsvetenskap* in Scandinavia and the Swedish-speaking Finland, used as an umbrella for a number of disciplines without an established equivalent in Finnish, derives from *Staatswissenschaft*. *Politiikkatieteet*, applied at one Finnish university, is a more recent translation of *Politikwissenschaften*.

2. Differentiation within and without Finnish political science

Within political science in Finland the compound of international politics, international relations, foreign policy, peace and conflict studies and world politics has been discernible since the 1930s. In larger Master's programs this compound nowadays typically comprises a track of its own. The earlier orientation of administrative studies (from *Verwaltungslehre*) in Helsinki and Turku has been phased out.

Public policy never evolved into a specialty in Finnish political science. As if to fill the gap, the discipline of social policy (from the German *Sozialpolitik*) has changed its name at several universities to the equivalent of *Gesellschaftspolitik*, translated into "public policy". Area studies of, for instance, the Nordic countries and the other Europe, Russia and the other Eastern Europe, or Asia, may or may not have connections with political science at the different Finnish universities. Development studies, offered only in Helsinki, is separated from political science.

A Finnish specialty without direct equivalent in most other countries is comprised of the administrative sciences, evolved since the mid-1960s, completely separated from political science despite overlaps of themes, and with about as much research and teaching personnel as political sciences. Examples of discipline, teaching program and program track names in the administrative sciences include public administration (called administrative science at two universities and public management at one university), local government politics (from *Kommunalpolitik*), local and regional public management, regional studies, environmental policy, health administrative science, social administrative science, social and health administrative science, and public law offered outside legal education. Three universities offer political science but no administrative sciences, three offer only the latter, and three offer both.

Politics is examined, taught and learnt also in communication studies and very much so, sociology, and social policy. However, this paper only covers political science proper.

3. The academic degree system and the institutionalization of teaching and learning in Finland

Insofar as academic degrees are offered in Finland, this takes place both at the Bachelor's, Master's and Doctoral levels, which also concerns political science (see Table 2.). Despite the second stage of the Bologna process, the Bachelor's degrees are unlikely to become acceptable to the Finnish employers, and the entrenched standing of the Master's degrees is likely to continue. Moreover, despite the principle that students could take their Bachelor's degrees in one field and their Master's in another and change university, neither objective is likely to come true soon.

Doctoral training is separated from the Bachelor's and Master's programs, which concerns also political science. Doctoral training increasingly taking place in (virtual) doctoral schools and their (virtual) doctoral programs. Possibly one fifth of the Finnish doctoral students in political science are able to do their research full-time, such as in full-time four-year salaried doctoral students positions, or moving from research project to research project until the dissertation is ready.

No equivalent to the German *Habilitation* exists in Finland. However, it is a substantial asset if an applicant to a tenured or tenure-track professor or university lecturer position has a docentship.

4. University basic funding in Finland

Since 2010 Finland's fourteen universities proper are removed from the state and its budget. Only the National Defence University still is a state institution.

The fourteen universities are independent legal persons receiving government grants with no certainty that this will happen let alone of the grant amounts. The Ministry of Education and Culture is no less able than before 2010 to exert general and detail steering, such as interpreting the performance of each university in respect to the funding formula concerning all universities proper during the annual result contract negotiations. According to the funding formula of 2017, criteria concerning education toward Bachelor's and Master's degrees weighs 39 %, research 33 % (importantly, reaching doctoral output objectives 9 %, publication output 13 %, and received domestic and foreign competitive research funding 9%), and criteria of government politics and policy 28 %. University tuition is free, except since 2017 for students from the outside of the EEA, who pay fees up to 15 000 euros a year.

5. Sources of research funding at the Finnish universities

The tradition that the Finnish universities have few research funds of their own continues. The Academy of Finland, allocating 437 million euros of funding in 2017, is the foremost source of research funding for Finnish political science. From the 550 million euros allocated in 2017 by the Finnish Funding Agency for Innovation, funding towards political science is limited. Political scientists may also win EU funding. Moreover, private foundation funding must be mentioned.

Since 2014, two new funding instruments have been in operation, and have been successfully employed by political scientists. The Strategic Research Council with members nominated by the government allocates 50 million euros annually, and the Finnish government allocates 10 million annual euros to its outsourced applied policy-and reform-oriented projects.