Higher education and research in a steady state – on changing premises and practices for educational research in Sweden

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This chapter addresses changing premises and practices for and in educational research in the case of Sweden. The ambition is to analyse changing preconditions for educational research and potential implications of this for research practices and knowledge production in the field of education. The text is organised in three inquiries: First, we present a general framework of transitions in the system of higher education and research as a combination of expansion and contraction. Second, we analyse educational research in Sweden, its trajectory, playground and play performances, indicating possible changes in the rules of the game. Here we apply an international perspective. Thirdly, based on this, we discuss the current situation - the condition we are in for educational research, and where to go?

Keywords: educational research; research governance; knowledge organization; higher education; contraction; collegiality

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C onsidering current discourses on educational research at universities, research councils and government, the preconditions for educational research are in transition. Catchwords like world class, excellence, strategic, visionary, multidisciplinary and internationally competitive are repeatedly used among financiers and higher education institutions (HEIs) and reflect what is at stake and what has come into focus. This is combined with an increasing emphasis on competition for research funds, publication impact, international networking and research cooperation in research projects. In sum, what is communicated to the research community with this emphasis today is competition, positioning in research hierarchies and demands for strategic action in order to obtain funds and to produce what is regarded as high quality research with social and political accountability.

While the pressure on the research community to perform according to specific lines has intensified, public trust in science and research is generally high. However, in the research community and in the mass media we sometimes note harsh criticisms, for example of Swedish educational research – stating that it is of poor quality and lacks political and professional relevance (see e.g. Lundahl, 2014 for comments). Discourses with similar positions on arguments directed to educational research are also emphasised internationally, and there are now numerous reports about how research is being restructured and ‘restored’ (see Walters, Lareau, & Ranis, 2009). It is within this context that we find the need to increase our understanding of the conditions that we as educational researchers are facing or about to face.

Our text is organised in three sections: We start with a tour of more general issues on research policy and research preconditions in order to provide some conceptual clarifications of one specific way to describe current trends. This framing is then used with a focus on educational research in an analysis of the Swedish case and some dominant perceptions of its historical development and the current situation. Here we also identify characteristics of educational research in different international contexts – in terms of a discipline or a field of study. In the concluding section we discuss the changing relations between preconditions for educational research and research performance and knowledge production.

Referring to the distinction between game and play (where the game is the set of rules at work, while play is signifying the practices to do the game according to its rules), we analyse any possible changes in the rules of the game and whether such changes are having an impact on the play – in educational research performances and in knowledge production. Using this metaphor we ask: are

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Framing the case: the system of higher education and research into the dynamics of a steady state

Addressing issues, practices or objects within systems of higher education and research can hardly be done without specifying the operations within science–society interactions. Changes in science and research systems relate to societal changes — in the state, in the economy, in policy-making and so forth. There is as much complexity as reflexivity in the ways in which science and society are interconnected (Beck, 1992; Giddens, 1990). However, this does not mean either that our knowledge of societal changes can explain changes in science — or vice versa, or that it is possible to use our descriptions of the one to characterise those of the other. The reason for this is obvious — the increasing interconnectedness between ‘society’ and ‘science’ presupposes as much increasing interconnectedness within science, as well as within society. Consequently, it is wise to regard both of them just as much in their specificity as in their interconnectedness, treating them as non-trivial realities important for understanding the present situation.

The work of the physicist and sociologist of science Robert Ziman (1994) has been important for us in this respect, especially his notion of ‘science in a steady state’ — a concept by which he captures the dynamics of a research system that is reaching its ‘limits to growth’ and, as a consequence, finds itself in a situation of radical structural transitions. Ziman (1994, p. vii) states:

Science is reaching its ‘limits to growth’. It is expected to contribute increasingly to national prosperity, yet national budgets can no longer support further expansion to explore tempting new research opportunities, by larger research teams, equipped with increasingly sophisticated apparatus. As a result, science is going through a radical structural transition to a much more tightly organized, rationalized and managed social institution. Knowledge-creation, the acme of individual enterprise, is being collectivized.

At the outset, Ziman’s thesis and reasoning may seem alien to educational research, simply because of the major differences between scientific fields. However, reading and taking his thinking seriously as one of many intellectual endeavours for synthesizing observable changes of academic science and science policy, we will here allow ourselves to put some of his ideas to the test in the context of educational research. Following Ziman (as well as for example Gibbons et al., 1994; Nowotny, Scott, & Gibbons, 2001), we will regard the changed relations between science and society (and here the social embedding of educational research) as essential for understanding the current state of ‘steady state’ affairs and the policies laid out for its transformation.

We set ourselves the following tasks: Firstly, we attempted to discover what evidence there is for arguing that the preconditions of educational research have changed radically and been put under pressure, with greater pressure for efficiency and public accountability, with increased competition for funding, and with losses in autonomy as well as changes within its institutionalised norms. Secondly, in order to capture and test these tendencies of steady state conditions for educational research in the Swedish context, we need to analyse the distribution of research resources and competition, as well as control over these resources, in combination with what agents are at work in this system, along with outputs of the system as research performance.

Reworking the rules of the game: expansion and contraction in higher education and research

Central to the steady state argument of Ziman (1994) are changes in public research funding and its relation to increased expectations and dependences on research and scientific knowledge in society. The situation described — with limitations in national budgets and higher education expansion — could be described as a higher education system in contraction — where the demands are ‘more for less money within fewer spaces of action’ (see Askling, Foss Lindblad, & Wärvik, 2007). With regard to higher education and research in Sweden we can observe the following:

During the 20th century, expansion was the normal trend for the system of higher education and research. However, this system is operating under increasing constraints and limits of resources. A way to capture this is in terms of incomes as shown by the research councils and the government.2

We note an overall expansion of research resources, which in a way is inconsistent with the steady state thesis. However, there are findings that support this thesis. Firstly, direct governmental funding is slowly decreasing its share of resources for research, while research councils and various authorities are increasing their shares by means of competitive calls. Secondly, income from other actors such as various research foundations, the EU and private research funding is small but increasing significantly. And thirdly, as put forward in a recent report from the research councils, we note that that the total amount of resources per individual researcher has actually diminished from 2001 to 2013.3 In sum, there are several indicators

1See Vara (2006) for a comment on the complete works of Ziman, including some earlier as well as more recent work in the same genre.

2Forskningsresurser I högskolan. En kartläggning av lärosätenas forskningsfinansiering. UKA-rapport 2013:7.
3The Swedish Research Council: Analysis and Proposal to the Government’s Research Commission. Stockholm: Vetenskapsrådet. See also Regerings Proposition (Governmental Bil). (2012/13:30). Forskning och innovation. Stockholm.
pointing to tendencies in Swedish research funding that support the Ziman (1994) thesis of science in a steady state – decreasing shares of direct funding, more actors and fewer resources to individual researchers. Against this background, we conclude that there is an important ingredient of contraction within what appears to be expansion in the current system of higher education and research.

Reconfiguring the rules of the game

The conclusion about an ongoing contraction tendency is here assumed to have implications for what is going on in the system, firstly in terms of procedures and practices in relation to distribution and control over inputs and outcomes of the system and secondly in the practices of research.

Starting with the distribution and control over research resources, we note revisions in the distribution of research resources from what we can name management by placement (see e.g. Hopmann, 2008) to management by expectations or performances. Management by placement is based on direct resource allocation from the government to the universities in combination with directives for how to use these resources. Management by expectations, in turn, is based on putting forward statements about what research should produce and controlling what outputs are achieved. Since the early 2000s there has been an increasing emphasis on management by expectations – exemplified by increased competition for external research funds and measurement of research production among researchers and across HEIs.

Increased competition for obtaining research resources is supervised, for example, by the research councils, who also carry out international intelligence work considering development strategies and resource distribution. According to information from the research councils, the competition for resources varies over years and across research fields, but to a large extent the probability of obtaining research funds for the individual researcher seems to be small. The rules of the game are also becoming increasingly complex, where different kinds of expectations for strategic research programmes, positioning research infrastructures and so forth are played out. (An international exception is some of the work of the European Research Council.)

In terms of the output of research, an important tool is different kinds of bibliometrics – for example, estimates of publishing activities and impact as presented by the research councils or research assessment exercises by the university chancellor or the HEIs. For instance, the Swedish research council argues that there is an increase in publications and their citation impact over the years but states at the same time that other countries are experiencing an even greater increase in that respect. Such numbers are then used as instruments in the distribution of resources for research – at HEIs, departments, faculties and institutions and as a background for reviewing research proposals. The implications of this are much debated in terms of publication strategies such as ‘slicing’ (where research results are divided into separate articles) and strategic selection of publication channels.

There are two side effects of increased competition and control of research that are not recognised. First, there is the hidden work of researchers in writing proposals for funding, where often only one out of ten is funded, and in writing submissions to research journals – sometimes with very high rejection rates. Second, the tasks involved in peer review are increasing – for instance of proposals for research funds to be ranked and the review of expanding numbers of submissions to an increasing number of journals. A similar expansion concerns research reviews of different kinds, for instance research assessments of universities, faculties and departments as well as evaluations of individual researchers. To our understanding peer review is expanding in academia as an important aspect of the dynamics of research in a steady state.

Our conclusion is that the activities, actors and efforts in the system of higher education and research are being intensified under the banner of efficiency as well as societal relevance. There are presumably differences between different parts of the academy (see Whitley, 2000), but to our understanding this is an overarching tendency in academia. Given this point, the following question arises: is this intensification having consequences for the production of knowledge? Is it just a technical issue in terms of efficiency and control, or is it a matter of qualitative changes in the rules of the game that are changing the performance of academic work?

According to Ziman, academic life can no longer be understood – or lived – as composed by ‘truth seeking’ individual scholars and scientists, making their careers based on their own choices within well-defined disciplinary boundaries. It has been argued that the transition in academic life toward a steady state has implications for the ethos (or institutional imperatives) to govern higher education and research systems. Scholars and researchers finds themselves today in a situation where there is a surplus of their competences; where there is increased competition for funding and positions; and where the academic research system faces increased pressure for efficiency, as well as for public accountability.

Ziman’s analyses seem at the surface to be of little immediate value to those whose main interest concerns educational research and higher education. However, like other books and ideas that analyse and put words to the interrelatedness of science and society, either from

4However, this argument is weakened in Ziman (2002).
5We refer here to the academic ethos in terms of what Merton (1942) labelled as CUDOS (communism, universalism, disinterestedness and organized scepticism).
the perspective of social theory more generally, such as work by scholars like Deleuze (1992), Drucker (1993) and Castells (1996), or from the same ‘social dimension of science’ perspective as Ziman, such as Gibbons et al. (1994) and Nowotny et al. (2001), his work provides us with a general framework within which our own analyses can be placed.

Going into the case – on transitions in educational research
In the previous section we put forwards two significant tendencies in the system of higher education and research in Sweden in terms of expansion and contraction, which are changing the rules of the game with implications for play performance. With this framing we now turn to educational research – its trajectory and current condition.

Getting educational research into the academy
The manifold inquiries in education are located and organised in many ways. In the 19th century, educational inquiries were developed in academia in philosophy, for example as noted by Immanuel Kant’s lectures ‘Über Pädagogik’ or later in the creation of chairs in education as an academic discipline in the Nordic countries – in Sweden first in Uppsala and Lund in the early twentieth century – with the training of teachers as a main task (for a comparative analysis of the development of educational sciences and educational research, see Schriewer & Keiner, 1992). A major expansion of educational research occurred during the reform period after WWII, when educational research was instrumental in reform decisions and elaboration of innovations in teaching congenial to the development of welfare-state education as ‘a spearhead towards the future’.

During the 1960s and 1970s there was a development of sectorial research situated at state authorities such as the National Board of Education, the National Board of Higher Education and their successors, the National Agency of Education and the National Agency for Higher Education. The ambition was to develop research of relevance for these authorities and the sectors they were responsible for. Parallel to this there was the introduction of ‘teacher colleges’ in Sweden in the late 1950s, with chairs in education sciences and allocation of resources for research to support the development of teacher education and the production of knowledge of relevance to the education sector in society.

However, a few decades later this specific ‘rationality of educational relevance’ was coming to an end. Sectorial research was regarded as being too tightly governed and ineffective in terms of knowledge production, and the resources were transferred to the research councils in order to enhance quality. Moreover, with the reform of higher education in 1977 the teacher colleges were integrated into the academic system of higher education and research, and they contributed in a significant way to the expansion of this system. In a way sectorial educational research organisation, perhaps with the exception of research on testing and test development, came to an end around the turn of the millennium.

Educational research in Sweden was evaluated, on behalf of the Committee for Educational Research at the then-Research Council for the Humanities and Social Science, by a set of international scholars in the middle of the 1990s (Rosengren & Öhngren, 1997) who presented more detailed analyses of various traditions and their international recognition. The evaluation report presented a story of successful progress. However, the report pointed to the relation between educational research and political power as somewhat of a blind spot to the research community – in a way naturalising issues of relevance in research – as well as a lack of communication between successful research traditions, for example in learning. Moreover, the report presented an educational research community that to a very great extent was based on specific education departments in Sweden.

However, this situation began to change at the turn of the millennium. Firstly, in relation to a general reconfiguration the disciplinary organisation eroded and turned into more multidisciplinary or cross-disciplinary fields of study. Secondly, teacher education was academicised: the former Ptolemaic teacher education organisation (where the teaching education college or department was the self-evident centre) was transformed into a network organisation where different faculties and departments turned into nodes of teacher education that was a task for the HEI as a whole (Calander, 2004). And thirdly, resources for educational research were increasingly requiring competition between researchers and various kinds of departments (Foss Lindblad & Lindblad, 2013).

Summing up these developments, we note processes of the expansion of educational research taking different routes, firstly based on disciplinary organisation and secondly transformed into multidisciplinary fields of study engaging several parts of the higher education system. Parallel to this expansion we also find different ways of dealing with issues of research relevance – from questions given to education chairs from the school commission in the 1940s to the creation of teacher colleges and sectorial research in the 1950s and 1960s and onwards. In the 2000s this development was configured into specific kinds of solutions that we will deal with below. As external research funds are becoming increasingly important and are of vital concern in educational research policy, we will focus on them.

Revising the rules of the game in educational research
What are the current developments regarding resources for educational research? Firstly, such resources are
increasingly becoming a matter of external financing – in accordance with other tendencies in Swedish research (see the Research Bill 2012/13). The largest agents here are a set of Swedish research councils, and we will deal with them in more detail.

Broady, Börjesson, Dalberg, Krigh, and Lidgren (2011) analysed research funds from these agents, which during 2005–2010 funded educational research in the amount of more than SEK 1,250 million (equal to EUR 143 million). In sum, funds for 345 projects and other issues were distributed by the research councils as presented in Table 1.

In Table 1 we note that during 2005–2010 educational research was carried out in different fields of study, here grouped as humanities (including history, linguistics, theology, etc.), the disciplines pedagogik and didaktik (including General Didaktik, Subject Didaktik, as well as Pedagogical Work) and other social studies (psychology, sociology, political science, and economics). This indicates firstly that educational research is a field of study comprised of different disciplinary labels and secondly that competition for research funds in educational research is played out in a multidisciplinary arena. This is to a large extent based on decision-making in terms of research policy, as will be shown below, referring especially to the construction of the Educational Science Committee (ESC) at the Swedish Research Council (SRC).

The largest share – 75% – of Swedish research funds is given by the ESC. Given this, it is reasonable to analyse the ESC in more detail. The creation of the ESC was based on two different events. The first is due to the integration of teacher education programmes into academia, which was not always followed by resource distribution but with demands for the academicisation of teacher education. The second is a transition in research policy (see e.g. Benner, 2001) concerning so-called sectorial research funds from the European Commission, which had to turn their research departments over to the research councils, which in turn had to combine demands for societal and scientific relevance. The ESC was thus constructed (Asking, 2006; Fransson & Lundgren, 2003) to deal with resources for educational research of relevance for teacher education. This started with the rather small sum of SEK 20 million in 2001. The progression from 2008 onward is presented in Table 2.

Funds for educational research from the ESC have been increasing as such, but not their share of the SRC, which has been about the same over the period – around 4%. To this is added the comparatively stiff competition for research funds in educational research is comprised of different disciplinary labels and secondly that competition for research funds in educational research is played out in a multidisciplinary arena. This is to a large extent based on decision-making in terms of research policy, as will be shown below, referring especially to the construction of the Educational Science Committee (ESC) at the Swedish Research Council (SRC).

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Table 1. Research funds for educational research from the Swedish Research Council, the Bank of Sweden Tercentenary Foundation and the Swedish Council for Working Life and Social Research, 2005–2010.

| University disciplinary fields | Sum in SEK, million | % |
|-------------------------------|---------------------|---|
| Humanities                    | 220                 | 18 |
| Pedagogik and didaktik        | 702                 | 56 |
| Other social studies          | 301                 | 24 |
| Other scientific fields       | 14                  | 2  |
| Total                         | 1,249               | 100|

Notes: Sums in millions of SEK (Swedish krona) and percentage by disciplinary fields. Based on Broady et al. (2011).

Changing the game

Let us start this section with somewhat of a paradox: To claim that educational research in Sweden is in crisis would be, in one way, to repeat what often has been said and, in another way, to make a somewhat peculiar statement, given the long expansion of educational research in terms of research incomes as well as outputs. This paradox – as we here call it – is based on conceptions of educational research as being a science that never seems to be fully ‘right’ in terms of expected outcomes – or fully ‘good’ in terms of scientific quality. The paradox has been a recurrent theme in scholarly work and in discussions within the field, as was clearly pointed out in Forsberg (2006/2007). We find a specific combination in a field that is characterised by high expectations of social and political relevance but also has an unclear status as a science. More than once, we find that educational research has a weak and unclear status as a science together with a general lack of autonomy vis-à-vis various external stakeholders (such as teacher unions or state authorities) – for example, in the form of demands for practice-related research or research on large scale assessments, to take two quite different examples (see also an interesting analysis of tensions between academia and the teaching profession in Switzerland by Hofstetter & Schneuwly, 1999).

This duality is not accidental, but is rather a characteristic of educational research, and not only in Sweden. Furlong and Martin Lawn’s (2011) edited volume Disciplines of Education: Their Role in the Future of Educational Research, in which scholars from different disciplines in Great Britain give their views on educational research, supports such a claim. The volume bears witness to somewhat ambiguous views, where some authors express a loss of public visibility and a lack of influence on educational policy, which leads to pessimism and announcements of crises. However, other authors refer back...
to their own disciplinary strength (for example in psychology, geography, sociology, economics) but also point out that research on education is marginalised from these disciplinary centres. Despite these differences, it is obvious that the challenges for educational research are of the same kind – emanating, on the one hand, from a highly problematic relationship between educational research, teacher education and education and, on the other hand, arising from difficulties in reaching scientific recognition, also driven by and within its disciplinary pluralities (see here how the state of Australian educational research shows tendencies similar to those in Sweden, though the system there is organised quite differently: Foss Lindblad & Lindblad, 2013).

In the dynamics of a steady state there is increased stress on the relevance of educational research to the public and especially to policymakers. One option, as presented in Table 1, is to widen the field of educational research by including a larger number of disciplines. Another option is to select research categories assumed to be of relevance for dealing with prioritised education challenges. Thus, a frequently used option in research politics is to categorise research domains in order to further increase the possibilities that research with the ‘important’ categories will be funded. The ESC is an interesting example here. A set of categories were developed by the committee and pointed out by the government (see 2011/12 RFR 12, p 13 ff.) when presenting the merits of research that is funded by the ESC. Here, categorising research of relevance for teacher education turned out to be obvious research policing, for example ‘praxis-close’ research (SOU 2005:31, p. 80 ff.) related to the constraints that the SRC should not finance sectoral research. These categorisations are options to open up prioritisation of research in terms of societal and political challenges – for example, in relation to what is conceived to be relevant for teacher education.

In Table 3 we present the distribution of research funds across the categories that ESC uses. The table is based on the number of contributions to one category divided by the total number of contributions from ESC. The categories work in a dual way in the funding process: applicants have to locate their proposal in one or more categories in which it will be reviewed, and the outcomes of the review process can be clustered across the categories, as presented in the table. This is also a way to legitimise the actual selection of research to support, since the categories indicate the relevance of this research.

Following the idea of the dynamics of science in a steady state, such categorisations are in a way a tool for managing the tensions between research curiosity and research relevance. By means of these categories it is possible to analyse the distribution of funds and their assumed relevance to different problems and challenges. In that sense categorisations serve as a tool for governance as well as for reflections concerning the politics of research-fund distribution. For instance in the distribution of funds in 2011, research related to didactics was given much more funding than in previous years, which might be due to an increasing demand for research of relevance to the teaching profession.

A way to capture the play across these changing playgrounds is to analyse research performance in publication patterns. In steady-state dynamics we would expect that the number of publications would increase, as well as the kind, in relation to what is requested in the system. In the Appendix 1 we present the publication pattern for the faculty of education at a large and successful Swedish university for the period 2004 – just before a performance-based system of research resources was presented – through 2014, which is the latest year of statistics available from the university database. The size of the faculty is about the same, and it produces just above the expected world impact according to a research assessment in 2010.

It can be noted that during this period:

1. The total number of publications increased from 346 to 670 publications – almost double.

| Category of contribution | ESC distribution in percent |
|--------------------------|-----------------------------|
| Didactics                | 32                          |
| Group processes          | 9                           |
| Individual learning      | 32                          |
| Educational history      | 12                          |
| Educational systems      | 30                          |
| Studies of effects       | 7                           |
| Professions              | 8                           |
| Values                   | 23                          |
| Total percent            | 154\(^a\)                   |

\(^a\)The total of 154% is due to some contributions being located in more than one category. ESC, Education Science Committee.
2. The total number of peer-reviewed publications increased from 110 to 488 publications – increasing by a factor of more than four.

3. The number of peer-reviewed scientific articles increased from 41 to 199 publications, almost five times more!

In Fig. 1 we present these changes over time in greater detail for three quite different types of publications – mostly non-peer-reviewed departmental reports and monographs, compared to peer-reviewed articles in scientific journals. In sum, the publication pattern has changed radically over a decade both in number and in kind. The kind of publication favoured in the distribution of resources (see Nelhans & Eklund, 2015) at the university is increasing rapidly, while traditional departmental reports are declining.

This development regarding numbers and kinds of publications is what could be expected, given expectations in research policy based on criteria for research resource distribution in relation to different kinds of publications, where peer review is an important criterion.

In what ways does this development correspond to research resource distribution over time in this specific case? The finances for the faculty in question are presented in Table 4.

Though the information given in Table 4 is limited, it is of interest in several ways. Firstly, there is an overall expansion in funds, although this is partly exaggerated by the fact that internal research funding includes resources for doctoral programmes as well. Secondly, commissioned research increased its share, which could be expected in steady-state dynamics with an increasing number of agents. Thirdly, research-council funding actually decreased its share (from 44 to 31%), which can be understood in relation to increased competition for research funds across disciplines but also as a sign of a contracting tendency in an overall expansion in educational research.

Combining the results in the specific case at hand, we noted the following: (1) an overall expansion of resources but a relative contraction of external funds from research councils, and (2) an increase in the number of research publications that actually seems to be larger than could be expected from the resources attained for research. In sum the combination points towards intensification in research performance and a great sensitivity among researchers to what matters in research funding.

However, a few critical questions arise: does this changing performance pattern have implications for research results and knowledge contributions in the field of education, and is it correlated to enhanced research quality? It is impossible to answer these questions in full here. We would put forward two critical remarks: firstly, the expansion in the number of research articles seems to be somewhat problematic. The simple assessment of research quality in terms of the assumed prestige of publication channels (the Norwegian model) does not show a larger share in high quality journals. Secondly, research communication analyses present a scattered picture with fragmented communication (see e.g. Jarneving, 2015) and a lack of core journals according to current communication patterns. Such core journals are regarded as vital for the intellectual and social recognition of a field of study (Leydesdorff, 2001) and for the orientation in the research discourse and knowledge production in the current field.

These findings on research performances are to our understanding not only valid for the current case, but seem to be part of a more general picture (Hansen & Lindblad, 2010) concerning educational research communication. Similar conclusions were made, for example when analysing research in the specific field of international research on international large-scale assessment as presented by Lindblad, Pettersson, and Popkewitz (2015). With the information given, it is evident that research publication activities are expanding, but so far there is little evidence that such adaptation to desired research patterns is leading to improved research communication and knowledge stabilisation in the field of educational research.

Note: All numbers in millions of SEK across years. Information was provided by the faculty financial office.9

Fig. 1. Patterns of research publication types. Numbers across years.

Table 4. Internal and external research funding for an education faculty, 2004–2014.

| Categories of research funding          | 2004 | 2008 | 2010 | 2014 |
|-----------------------------------------|------|------|------|------|
| Internal research funding for research  | 23   | 41   | 53   | 67   |
| and doctoral education                  |      |      |      |      |
| External research funding from          | 30   | 36   | 34   | 51   |
| research councils                       |      |      |      |      |
| External funding for commissioned       | 16   | 22   | 24   | 47   |
| research                                 |      |      |      |      |
| Total                                   | 69   | 99   | 111  | 165  |

Note: All numbers in millions of SEK across years. Information was provided by the faculty financial office.9

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9Karin Timan is acknowledged for her valuable contribution here.
Concluding remarks on educational research in a steady state

In this chapter we have presented a view of the system of higher education and research from a vantage point influenced by Ziman’s (1994) notions of a ‘science in a steady state’, where expansion is turning into contraction – meaning more activities, more agents and more crowding. Because higher education and research is a system where similar tendencies seem to be translated into different fields, we started this text by presenting a more general picture and then turned to the field of educational research.

Considering the general picture, we could show an expansion of the system in general as illustrated by reports from research councils and the chancellor for higher education and research and in parliamentary bills. However, within this general picture we also found indications of increased contraction, as in the redistribution of funds for research from basic allocations directed to the HEIs to competition of external funds. We also noted an increase in agents in the research system and a decrease in research funds for individual researchers, in combination with a governing of research towards collective research programmes and research hierarchies, for example in funding centres of excellence. An important point in this changing system of expansion and contraction is that competition for resources is increasing and expectations are expressed for research in terms of international publication and international networking. In a word – the preconditions for academic work and life are getting harsher.

Looking at the specific field of educational research, we note a set of transitions – entering the academy as a discipline – pedagogik – in its own right with a background in philosophy and expanding into the behavioural and social sciences with important functions in relation to major welfare state reforms. This disciplinary progress up to the 1990s came to an end, and educational research turned into a field of study where pedagogik and didaktik were assumed to cooperate and compete with other social sciences, as well as the humanities and the social sciences, within what was called education sciences. This multi- or pluri-disciplinary turn at the end of the millennium changed the preconditions for educational research in terms of the number of agents competing for funds and recognition, as well as in expectations in terms of networking, publishing and reviewing research.

What, then, is the current condition of educational research in Sweden? From the point of view of researchers in pedagogik, there is a shift towards increased competition for external research resources but also in terms of expected research collaboration in the current pluri-disciplinary field of study, where researchers with other disciplinary allegiances are increasing their interest in research on education issues. We also note increases in the work to be done – in networking, in peer reviews, in publishing – which can be regarded in sum as an intensification of research activities. In many ways this is a development that brings new opportunities, but also risks of fragmentation and isolation as well as strategic over-adjustment in educational research relative to governing practices. This is especially problematic when such performance has implications in terms of deficiencies in research communication and a lack of recognition of knowledge production in the field of education. We are afraid that we have noted such implications in the analyses carried out here.

We have here shown some issues that need to be dealt with in research as well as in research policy. What, then, are the main strategies to choose from and to cultivate?

Strategy one is playing the game in accordance with the current rules. For instance, individual research programmes would intensify their efforts to adjust research directions and write proposals for funding. Moreover, they would increase their networking and publishing in accordance with the current vision and established criteria in order to get leading positions in the field of educational research.

Strategy two is working to change the rules of the game. For instance, this strategy might involve developing an increased focus on knowledge production, that is, for collegial research collaboration, in order to define research discourses and research questions in need of being addressed in a changing educational landscape and to produce substantial research in dealing with such issues.

In the current situation it is vital for educational research to identify such alternatives and assess them in terms of what achievements have been reached and what tasks are needed to produce significant and relevant research on education. This is a collegial task regarded in the long run to meet the ambitions of current research policy as well as demands among different stakeholders for significant and relevant knowledge contributions.

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Appendix 1. Faculty of education at the University of Gothenburg: number of publications by publication types, 2004–2014.

| Publication type                                | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 |
|------------------------------------------------|------|------|------|------|------|------|
| Article – book review                          | 2    | 2    | 4    | 21   | 12   | 9    |
| Chapter in monograph, book                     | 70   | 98   | 75   | 67   | 69   | 74   |
| Chapter in monograph, book – peer reviewed    | 0    | 0    | 2    | 2    | 21   | 52   |
| Artistic research and development              | 0    | 0    | 1    | 0    | 0    | 0    |
| Conference abstract – peer reviewed            | 1    | 0    | 3    | 10   | 15   | 116  |
| Conference paper – non-peer reviewed           | 36   | 49   | 50   | 30   | 52   | 30   |
| Conference paper – peer reviewed              | 68   | 61   | 121  | 87   | 102  | 19   |
| Conference poster                              | 7    | 4    | 5    | 13   | 14   | 15   |
| Doctoral thesis                                | 17   | 13   | 16   | 18   | 10   | 15   |
| Journal/newspaper article                      | 22   | 37   | 24   | 26   | 23   | 42   |
| Licentiate thesis                              | 1    | 0    | 0    | 4    | 4    | 11   |
| Monograph, book                                | 14   | 18   | 20   | 17   | 14   | 12   |
| Monograph, book – peer reviewed                | 0    | 0    | 0    | 0    | 1    | 2    |
| Monograph, book – edited                       | 12   | 14   | 11   | 8    | 13   | 4    |
| Other                                          | 3    | 5    | 4    | 10   | 5    | 6    |
| Report                                         | 37   | 53   | 38   | 19   | 18   | 16   |
| Scientific journal article – non-peer reviewed | 13   | 9    | 28   | 29   | 20   | 16   |
| Scientific journal article – peer reviewed     | 41   | 65   | 68   | 91   | 110  | 199  |
| Scientific journal article – review article    | 0    | 0    | 2    | 8    | 9    | 2    |
| Textbook                                       | 2    | 2    | 0    | 5    | 0    | 2    |
| Totals                                         | 346  | 430  | 473  | 465  | 512  | 670  |

Source: Gothenburg University Publications: https://gup.ub.gu.se/statistics/ 2015-10-29.