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Experiences from Denmark

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Chapter 15

Role of Universities for Inclusive Development and Social Innovation: Experiences from Denmark

Birgitte Gregersen

Abstract Seen from the point of view of inclusiveness and social innovation, having access to new knowledge and learning is the key issue, but not the only relevant. The teaching and learning model influences the conditions for inclusive development to a high degree. It is argued that especially problem-based learning (PBL) can be an efficient tool to engage students (including first-generation academics) in higher education and stimulate collaboration with external partners—including SMEs and non-favoured citizens and regions. Universities are increasingly recognised as important drivers for innovation and sustainable development, and they are expected to play a crucial role in both the policy formulation and its implementation. This chapter discusses how these ‘new’ views on the role of contemporary universities may influence some of the current issues related to inclusive development and social innovation in a Danish context and finally current challenges that Danish universities face in their efforts to play an active role for inclusive development and social innovation are discussed.

Keywords Denmark • Universities • Inclusive development • Social innovation • Problem-based learning

Introduction

Denmark belongs to the group of small Nordic welfare states with well-developed tax-financed health, social and education sectors. It benefits from an almost free access to higher education combined with a relatively generous state-funded scholarship programme, and a high research and innovation performance of the

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Danish innovation system. It has for many years been one of the most equal societies measured by the Gini coefficient, although income inequality has increased in Denmark as in most developed as well as developing countries.¹

The relatively good—compared to many other countries—economic situation for Danish universities and higher education institutions (HEI) does not mean that there is no room for improvement, challenges or shortage of resources, but it does mean that the context for discussing the role of universities for inclusive development and social innovation is quite different than in many countries including most countries represented in this book. The principal dynamics and overall explanations related to the role of universities for inclusive development and social innovation might root from the same dynamics and worldwide trends but the extent and deepness of the problems one faces and the resources to set in motion are clearly not the same. Nonetheless, a more explicit focus on inclusive development and social innovation in university teaching, research and external collaboration and engagement is relevant in a Danish context as an important contribution to thwart current tendencies towards increased income inequality, regional divergence and political and social tensions related to especially youth unemployment and immigration issues affecting the contemporary Danish society and political discourse.

Seen from the point of view of inclusiveness and social innovation, having access to new knowledge and learning is the key issue. Section “Access to Knowledge and Learning from an Enrolment Perspective” looks at access to knowledge and learning from the perspective of enrolment in Danish universities. However, not only access to new knowledge and learning in the form of formal education but also the design of the education system and the dominating teaching model influence the conditions for inclusion. In section “Problem-Based Learning as a ‘Tool’ for Inclusive Development” we argue that especially problem-based learning (PBL) can be an efficient tool to engage students (including first-generation academics) in higher education and stimulate collaboration with external partners—including SMEs and non-favoured citizens and regions.

Universities are increasingly recognised as important drivers for innovation and sustainable development, and they are expected to play a crucial role in both the policy formulation and its implementation (OECD 2007). Section “Universities as Drivers of Inclusive Development and Social Innovation” discusses how these ‘new’ views on the role of contemporary universities may influence some of the current issues related to inclusive development and social innovation. Section “Current Challenges and Policy Implications” concludes with a discussion of current challenges that Danish universities face in their efforts to play an active role for inclusive development and social innovation.

¹ With a Gini coefficient at 0.249, Denmark was in 2012 ranked as the most equal country among OECD countries (OECD 2015).

Access to Knowledge and Learning from an Enrolment Perspective

Many of the world trends and challenges for higher education institutions are reflected in the Danish context as well, one of the most significant being the booming number of students. This section gives an overall overview of enrolment in HEI as an indicator of inclusiveness.

Enrolment

Enrolment rates have been increasing over time in nearly all countries, including Denmark who in 2012 had the highest enrolment rate (44 %) of 20–29-year-olds among the listed OECD countries (OECD, *Education at a Glance 2014*). Increasing the number of young people with a higher education has for several years been a clear policy goal. In the Danish context, the national policy goal formulated by the former government (2011–2015) is that in 2020 60 % of all young people should complete a tertiary education (short, medium or long) and 25 % a university degree at graduate (master) level. Both targets have been fulfilled since 2011, and the latest figures (2014) show, respectively, 62 % and 28 % according to the Danish Ministry for Children, Education and Gender Equality (2015).²

Danish students are supported by a state grant of about US\$1000 a month (2015 level) plus a possibility to get cheap state loans during their bachelor (3 years) and masters (2 years) study. Grants (and loans) are, however, only given to so-called active students, defined as students that take the required exams within an academic year.³ Although some Danish politicians from time to time discuss the opportunity to introduce tuition fees on the graduate (master) level, there seems still to be an overall consensus across political parties and labour market organisations that free education to the highest level belongs to the heart of the welfare state and that new knowledge and a high-qualified labour force are crucial in order to secure long-term growth and development of the Danish society.

The relative favourable study grant and state loans combined with no tuition fees are clearly part of the explanation of the high enrolment rate, but it also contributes to a high completion rate for both men and women, since it minimises the pressure for students to take on paid work during the study period (Danish Ministry of Higher Education and Science 2013). Around 80 % of Danish students who enter tertiary

²OECD enrolment statistics takes the point of departure in actual enrolment rates for 20–29 years, while the Danish Ministry of Higher Education and Science uses a so-called profile model that calculates what level of education a 9th-grade cohort of students is expected to have in 25 years if they have the same study behavior (completion rate, propensity to continue education) as prevailing for the whole group of students in the year of forecast.

³Since 2006 tuition fees are introduced for non-European students. In order to compensate a few scholarships are allocated to each university to distribute to students from low-income countries.

education graduate with at least a first degree/qualification, and there seems to be no gender differences (OECD 2013).⁴

Private expenditures on tertiary education play only a minor role in the Danish context—as is also the case in the other Nordic welfare states. This is a precondition for maintaining the free access policy and a major explanation why marketisation of higher education as seen in especially the USA is not as prevalent in the Nordic countries including Denmark.

Seen through the lenses of inclusion, Open Universities, free online courses, and MOOCs are some of the means to give access to new knowledge and learning for less favoured regions and students. Most Danish universities offer a few online courses and make experiments with MOOCs, but in the Danish context these trends are not yet significant.

In Denmark, expenditure on education continued to grow during the financial and economic crisis and in 2011 expenditure on education accounted for 7.9% of GDP (OECD 2014). However, the international economic crisis had implications in Denmark as in other countries. One important indicator is that unemployment rates went up for all age groups including university graduates. Unemployment rate of 24–35-year-old Danish tertiary graduates increased to 7.7% in 2012—close to the OECD average on 7.4% but still far below the unemployment rates experienced in Southern Europe (OECD 2014). Following the later slow economic recovery average unemployment rate for all groups including university graduates has been falling since 2012 and is today around 4.5% (2015). In Denmark as in most countries university graduates have—in average—a lower unemployment rate than persons with short or no university education. This was also significant during the economic crises.

With the shift to a liberal right wing government in 2015 reduction in public sector spending has come higher on the political agenda and this has also affected the university sector in different ways, although full implementation is yet to come. One effect is different initiatives to put an end to the increasing enrolment at the university level by introducing restricted admission at selected study programmes where unemployment rates for graduates are above average unemployment. It is of course not without problems to try to manage the future demand for graduates with reference to more or less relevant unemployment rates still reflecting the repercussions of economic and financial crises.

A More Nuanced Picture Reveals Room for Improvement

A more nuanced picture can be drawn if we shift focus from the overall total enrolment trends to different socio-economic groups, be it gender, students with special needs, ethnicity, age, social heritage or location.

⁴ According to OECD, Denmark ranks third with Australia and Japan with higher completion rate that is 81% and 90%, respectively. It is interesting to notice that among countries with the lowest completion rate are Sweden and the USA (OECD, Education at a Glance 2013).

Students with special needs. In the Danish political debate, the term inclusion in relation to the educational system has been on and off the agenda for years, but the debate is less related to income inequalities, gender balance and social mobility and more on how to include kids and students with special needs in the educational system. All Danish educational institutions offer some minimum degree of help in relation to special needs students, e.g. educational support, exemptions in relation to curriculum and exams, accessibility and disability supplement. These important aspects of inclusiveness will, however, not be discussed further here.⁵

Social mobility. A Danish study of social mobility (Danish Ministry of Higher Education and Science 2014a, b) found that for Danish students born in 1980 only 23.8 % of students with parents having primary school as their highest education are enrolled or finished a tertiary education. For students with parents having an academic degree the share is 79.9 %. Only 5 % of young persons with non-skilled working parents complete a university degree. Some improvements have taken place as the level of education increases in general but social mobility in relation to university enrollment seems to be a long-term and different hurdle to overcome. The current government discusses if access to high school (gymnasium) should be restricted based on marks in Danish language and mathematics. If this is decided, critics argue, social mobility and entrance to HEI will be even more difficult for kids with non-academic educated parents in the future.

Gender balance. In the future more women than men are expected to complete an HE degree in the Danish context. Today, more than half of the new enrolled bachelor students are women and approximately same amount of women and men are enrolled as Ph.D. students. Interestingly, the gender difference is a fraction higher among Danish-born students than between students from other ethnic groups than Danish.⁶ When subdivided by scientific discipline there are clear gender differences—that is under-representation of women within engineering and science and over-representation of women within humanities and healthcare. Despite many initiatives over the years at different levels from primary schools to university level the key to change this pattern has not yet been found.

If we look at gender distribution in relation to career stages within research (after Ph.D. degree) there is a clear gender bias. Only 18 % of the full professors are women and in this respect Denmark is clearly lacking behind most European countries. A recent report from the Danish Ministry of Higher Education and Science (2015) documents various initiatives (from mentor schemes to increased transparency in advertising and occupation of positions) at Danish universities to get more women in top research and research management positions at the universities, university boards and research councils, but progress is slow. Denmark has not followed the other Nordic countries and introduced a gender policy law based on

⁵For an overview of various initiatives to help persons with special needs in the Danish educational system, see <https://www.european-agency.org/country-information/denmark/national-overview/complete-national-overview>.

⁶In 2012 the figures were 69.2 % of the young Danish females and 54.9 % of the young men were expected to complete a higher education degree. For non-Danish ethnic group the figures were 66.2 % and 52.4 %, respectively (Danish Ministry of Higher Education and Science 2014a).

gender quotas, and gender equality results are in stead expected to materialise through voluntary initiatives and good examples.

Refugees and asylum seekers. The increasing number of refugees and asylum seekers from war zones in Syria, Afghanistan and Africa hoping for a better life in Europe is very high on the political agenda in all European countries. While the Danish Government has signalled and implemented a very strict immigration and asylum policy, the Danish population seems split in their approach to this issue. At the university level very little has up to now been done at the formal level to assist inclusion of refugees and asylum seekers with a higher education background from their home country. Different initiatives might be activated such as competency assessment if refugees arrive without certificates, open and free lectures, mentoring schemes, matchmaking with other knowledge institutions, companies or entrepreneurship activities, volunteers for language teaching and scholarships. Until now such initiatives have mainly been driven by individuals and not gained much institutional support. At the European level and in other European countries more coordinated activities have emerged. For instance EU has launched a ‘Science4refugees’ initiative to help refugee scientists and researchers find suitable jobs that both improve their own situation and put their skills and experience to good use in Europe’s research system.⁷ Hopefully, this will inspire more universities to play an active and inclusive role and contribute to remedy the severe situation.

Lifelong Learning

Taken 25–64-year-olds’ participation rate in formal and/or non-formal education as an indicator of access to lifelong learning Denmark and the other Nordic countries together with the Netherlands are the five countries with highest participation rate.⁸ Access to new knowledge and lifelong learning is a key element in modern learning economies (Johnson and Lundvall 1994) and at the same time a prerequisite for inclusive development in the broader sense. In modern learning economies knowledge and learning capabilities need to be constantly recharged in order not to get obsolete and to maintain the capability to select, adapt and further develop new knowledge. It goes both in connection to new and changing job functions and at the individual private level where empowerment has become a key word as a prerequisite to navigate in the ocean of Internet information and self-service demands.

With reference to Amartya Sen’s capability concept, Johnson and Andersen (2012) define development as the enhancement of learning capabilities. “[k]nowledge, seen as something people can possess or have access to, has value in itself and it creates opportunities for enhanced well-being in other ways as well. It may improve peoples’ job opportunities and productivity, and it may increase the utility

⁷ See <http://ec.europa.eu/euraxess/index.cfm/jobs/science4refugees> for more information.

⁸ Participation rate (25–64-year-olds) in formal and/or non-formal education (2012): Finland 66, Denmark 66, Sweden 66, Norway 64, the Netherlands 64, OECD average 51 (OECD 2014).

of the consumption of goods and services” (Johnson and Andersen 2012:28). Following this path Arocena and Sutz (Chap. 3 in this volume) see access to “*life-long advanced learning of increasing quality and increasingly connected with work, citizen activities, cultural expansion, and, in general, freedoms and capabilities for living lives that people value and have reason to value*” as one of the three missions characterising the *Developmental University*.

Bearing in mind that not only access to new knowledge and learning in the form of formal education but also the design of the education system and the dominating teaching model influence the conditions for inclusion next section introduces problem-based learning as a tool for inclusive development in the broader sense.

Problem-Based Learning as a ‘Tool’ for Inclusive Development

The growing enrolment implies inclusion of new types of students with different socio-economic and cultural background posing new challenges for the curricula. It is well known that different learning styles appeal in different ways to different individuals depending on among other factors also social and cultural background. All things equal, it takes more efforts for a young first-generation university student to break the codes for learning in relation to both the academic content and the formal and informal institutional settings in a university with long traditions than it takes for a student with parents being second- or third-generation academics. However, the size of the barriers depends not only on the individual capabilities and social and cultural background but to a large extent also on the pedagogical principles. In this section we use experiences from Aalborg University where PBL is implemented as a specific learning principle that has proved successful in order to propel both inclusiveness of a broad variety of student groups and inclusive development.

In short, PBL is a learning style and pedagogical principle rooted in pragmatic philosophy that:

- Provides students with an active role in the acquisition and creation of knowledge
- Redefines the role of the teacher in the learning process
- Creates relevant and new knowledge by interaction

Aalborg University, located in the Northern part of Denmark, was founded in 1974 in order to increase the number of young people with a university degree in the region and to create a hub for regional industrial transformation and development. It was founded with PBL as the overall pedagogical principle and learning style, and PBL is still the basic foundation for all study programmes at all four faculties: engineering and science, humanities, social sciences and medicine.

PBL is adapted in different ways across different study programmes reflecting different traditions and experiences, but some general characteristics apply to all study programmes at Aalborg University. In average, students use approximately

50% of the study time on semester projects and 50% on courses and seminars. Some semesters are organised with relatively more courses and others with mainly project work. Students work together in groups with 2–6 students in each group. Each group has a faculty member as supervisor who guides the students throughout the project (Aalborg University 2015; Kolmos et al. 2004).

Students choose the topic for their semester project (including bachelor and masters thesis). They have to formulate, motivate and document a relevant problem or research question as point of departure for a project. Inspirations for topics and problems come from many different sources. It may be related to an overall semester theme with related courses and semesters. It may relate to prevailing issues in the media or problems identified by companies, organisations or local communities. Problems may be theoretical or practical leading to concrete solutions to specific problems: for example policies to reduce youth unemployment in a specific region, implementation problems related to telemedicine, the future elderly care home, renewable energy solutions in remote areas, traffic jam and waste reduction.

Students choose and formulate the problems to study and to solve. They form their own groups, and they are responsible for the process and the final product. This makes students highly motivated and engaged in their study. Learning is an interactive and social process and the general experience is that the problem-based and project-organised group work creates a team spirit that secures good and relevant results and at the same time a high study efficiency. The mutual responsibility for fellow students in the project group and the final project constitutes an important part of these effects.

PBL and solution of problems require a combination of theory and practice. It improves learning because it forms a platform where students have to apply theories, methods and tools in practice; see the box below for two different types of PBL approaches. Example 1 illustrates a designed and open approach to problem solving. Students are given the challenge to help the local municipality to construct the nursing home of the future. Similar ‘real-world challenges’ related to transport issues, environmental issues, waste management, etc. are plentiful. Example 2 illustrates an approach where student groups at the bachelor programme in business administration have to identify and solve a business-related problem in collaboration with local firms.

Example 1: The Nursing Home of the Future

In 2009 Aalborg Municipality started a project called ‘the nursing home of the future’ that should be based on the newest knowledge within elderly care, architecture, design and new technologies. Aalborg Municipality formulated different challenges for solutions and students worked together from different disciplines—architects, sociologists, nurses, economists, accountants, planners, software engineers, etc. Ideas and models were created, and workshops

(continued)

Example 1: (continued)

and solution camps with elderly organisations, municipality, nurses and hand-icap organisations were established. Many of the students' ideas were implemented. The first residents moved in primary 2014, and experiments and student groups are still involved.

Example 2: Collaboration with Local Companies

At fifth semester at the bachelor programme in Business Administration all student groups make a semester project together with a local company. In the first 2 years of their study programme the students have followed courses in various business administrative disciplines as marketing, accounting, organisation and strategy, economics, finance and statistics, and the idea is to apply knowledge, models and tools to real problems or challenges in a real company. The supervisor participates in the first meeting with the company. Together with the company the student group identifies what problems (or challenges) they decide to solve or study. For many of the small- and medium-sized companies in the region, such student projects are the first collaboration with the university—often leading to further collaboration either in the form of new student projects, guest lectures or research projects involving university staff.

With PBL and project-organised group work follows important additional skills that improve students' employability in the broader sense:

- Capability to work in teams—also under pressure
- Capability to understand, define, describe, analyse, present and solve problems—also when problems are comprehensive and complex
- Capability to reflect, receive and give constructive critique
- Capability to combine theory and practice
- Capability to present orally and in writing
- Intercultural understanding
- Personal network
- Project management

During 40 years of practice the PBL model has proven to be a successful pedagogical model to motivate and activate all types of students independent of their socio-economic heritage, including first-generation university students. Second, it brings relevance high on the curriculum agenda because students become engaged in solving real problems. Third, it engages students (and teachers) with local community of firms, various social groups, organisations, NGOs or municipalities depending on the study programme in question and the needs of the external partner. In that way, PBL is an effective approach to involve students and universities in

inclusive development and social innovation. In other words, inclusiveness is not only a question of ‘free’ enrolment and financial support for less favoured groups but is also influenced by the curricula and the learning model.

Universities as Drivers of Inclusive Development and Social Innovation

Different concepts and analytical models have been put forward to reflect and analyse the increasing and multifaceted role of universities as important drivers of innovation and development. ‘The entrepreneurial university’ concept (Clark 1998, 2004) emphasises how universities can stimulate entrepreneurship in minds and action both internally at the university and externally in the society. ‘Triple Helix’ (Etzkowitz and Leydesdorff 2000) focuses on how different constellation and interaction between industry, government and academia may spur economic development. In the so-called ‘civic university’ (Goddard 2009), the three traditional ‘missions’ of the university—teaching, research and engagement with the wider community—are of equal relevance, and overlap and create synergies and breeding ground for transformative, demand-led actions in the local, national and wider world context in which the university is located. Especially the ‘civic university’ concept has gained a certain foothold in the European policy context for instance in relation to EU’s new ‘Smart Specialisation Strategy’ (S3, 2014–2020) where universities are expected to play a crucial role in both policy formulation and implementation (Kempton et al. 2013; European Union 2011).

A ‘Developmental University’ is a university which academic mission is to foster development through democratisation of knowledge access (learning), knowledge production (research) and knowledge diffusion (Arocena and Sutz 2005; Arocena et al. 2015).⁹ The different concepts emphasise different aspects but all have in common a focus on the increasing role of universities in contemporary knowledge-based innovation system, where the universities’ three missions or domains (teaching, research and engagement) get more and more intertwined and interact with the wider society in multiple ways.

The PBL approach discussed in the former section is especially tailored to stimulate interaction between the three domains. The two concrete examples mentioned earlier (the nursery home of the future and the business students’ collaboration with local companies) are illustrative examples on mutual benefits of interaction between teaching and learning on the one side and engagement on the other. Another example is when law students provide legal counselling for free to various social groups.

Interaction between research and engagement is well described in the literature and takes many forms. It covers collaboration with private companies reaching from counselling SMEs about new market opportunities, industrial Ph.Ds. and use of research

⁹See Chap. 3 by Arocena and Sutz for elaboration of the ‘Developmental University’.

labs to research collaboration in large research consortia. Interaction and external collaboration are relevant for all disciplines—for instance historians working with museums, engineering and science with primary and secondary schools on renewable energy, medicine with hospitals or sociologist working with the local municipality on how to reduce crime and youth unemployment in larger cities—just to illustrate the diversity of potential collaboration between research and engagement.

Interaction between teaching and learning on the one hand and research on the other is the core of research-based teaching and works both ways when research benefits from applied student projects and lab work. When all three missions or domains overlap it creates synergy and breeding ground for transformative, demanded actions (Goddard 2009) or in other words inclusive development and social innovation. For instance, inspired by the so-called d.school—design thinking at Stanford and Potsdam University, universities all over the world—including Denmark—have created lab facilities on or off campus where students, citizens and (local) companies can exchange ideas and work together in order to find solutions to local problems. The textbox below gives an example of such activities at Aalborg University.

“Collaboration with Business Model Design Center (BMDC) can be as a main collaborator (i.e. work package coordinator) or as a subcontractor. We work with companies and research organisations in a number of different ways, both quantitatively and qualitatively and using both noninterventionist and interventionist type methods. One of our major strengths is our business model laboratory. Finally, collaboration with BMDC gives you access to leading researchers in the field of business models, and the related areas you choose to focus on in the further development of business models in your research project.

Our activities are primarily done in collaboration with real companies, including small- and medium-sized enterprises (SMEs), public organisations and start-ups. In our business model lab we have developed a series of flexible and generic workshop modules that span the business development exercise from creative thinking to optimising performance. Our unique set-up of facilitation, ICT, tools and physical location ensures that we can properly monitor and document development processes. So while you learn, we learn too!”

Source: <http://www.bmdc.aau.dk/cooperation/>.

There is a wide variety among the Danish universities in their priorities and experience with various external collaboration types and partners. Such differences are due to both university *external* and *internal* interdependent factors (Gregersen et al. 2009). Important university internal factors include for instance internal priorities between and within the three missions and different traditions for external

collaboration within different scientific disciplines. Within for instance engineering and business administration collaboration with private companies is more frequent than most other disciplines.

University external factors include first of all the production and knowledge structure of the national and the regional system of innovation where the university is embedded: for instance to what extent the production structure is dominated by large R&D-intensive sectors dependent on close collaboration with universities or the university is surrounded by SMEs with only limited R&D activities and capability to work with universities. The mix of formal and informal institutions like IPR regulations, trust, accountability and labour market regulations influences both the extent and form of such research collaboration.

The division of labour between different knowledge institutions influences the role of the universities for external collaboration. Denmark has a widespread network of specific technological service institutions (GTS—Advanced Technology Group). These nine independent research and technology organisations offer knowledge, technology and consultancy, co-operation on technological and market-related innovation, testing, optimisation, quality assurance, certifications and benchmarking within different fields. They sell their services on commercial terms in Denmark and abroad and collaborate closely with the Danish Ministry of Higher Education and Science on technology-based promotion of trade and industry.¹⁰ In many circumstances—for instance in relation to minor incremental innovations—GTS institutes are the most obvious contact for SMEs rather than universities. In countries without similar institutions as the GTS institutes, universities may play a more active role for SMEs.

Despite the economic crisis, public funding of university research has increased in Denmark. This goes both for public funding of basic research and funding from dedicated research programmes distributed by research councils. Denmark is among the OECD countries with the highest R&D investments as percentage of GDP. Two-thirds of the invested DKK 56.4 billion in 2012 (or 2 % of GDP) came from the private sector and one-third from the public sector.¹¹ It is interesting to notice that there is minimal cross-sector flow between main sector spending and main sector performance. Nearly all private-sector research is also financed by the private sector and nearly all public-sector R&D spending is allocated to the public sector, of which universities and university hospitals receive the lion part (Danish Agency for Science, Technology and Innovation 2014a).

There are large differences across countries and scientific disciplines in how public and private research investment is distributed. In Denmark 34 % of public R&D investment is allocated to medical and health sciences, natural sciences 21 %, social sciences 17 %, engineering and technology 14 %, agricultural sciences 8 % and

¹⁰For further description of the nine institutions and their activities, see <http://en.gts-net.dk/gts-institutes/>.

¹¹Following Korea, Iceland, Finland, Sweden and Japan, Denmark is among the few OECD countries that have reached the so-called Lisbon target with total R&D spending on at least 3 % of GDP (2 % private and 1 % public).

humanities 7%. The high share of public R&D in medical and health sciences is matched by private R&D investment reflecting a strong research-intensive pharmaceutical industry in Denmark. When the share of external funding increases in relation to basic funding, and research programmes become more dedicated to specific areas and more competitive with allocation based on New Public Management indicators, it raises the question if private external funding and research for profits get too influential on the research agenda on the expenses of research *for* the poor as well as *by* the poor or less favoured like SMEs with no or very limited opportunity to finance university research activities.¹²

However, there are several university external and internal interdependent factors that influence the research agendas of contemporary universities. In other words, tracing a direct relationship between university funding structure, research agendas and research outcome at the level of single universities is complex. Adding to this is that research and innovation targeting one area may subsequently become relevant in others because second- and third-generation innovations become cheaper or because knowledge seeks new applications with new opportunities for also less favoured social groups.

Social Entrepreneurship and Social Innovation as a New Growing Focus Area

In the Danish political context universities' third mission activities have for many years primarily been a question of stimulating university-industry collaboration. This is still a top priority and as in most countries various support schemes are established to stimulate more direct collaboration between universities and companies (Danish Agency for Science, Technology and Innovation 2014b). A new focus where teaching and learning, research and engagement may create synergy and stimulate inclusive development is related to a growing interest in social entrepreneurship, social enterprises and social innovation.

Social entrepreneurship may be defined in different ways, but here the term refers to starting new business or organizations or spin-off from existing—that are:

- “With a social purpose i.e. improve social or societal conditions and create social value
- Innovative i.e. working on new products, services or processes
- Professional i.e. not exclusively volunteer based, and working consciously to create social value for key stakeholders through value creation for customers and users
- Privately or collectively owned i.e. not publicly owned

¹²In a developing context the term ‘inclusive innovation’ normally refers to innovation *for* the poor as well as *by* the poor (Johnson and Andersen 2012).

- Not-for-profit i.e. reinvesting profits to promote the social purpose” (Monday Morning 2010)

Defined that way, social entrepreneurship is not a new phenomenon but has a long tradition in Denmark in the form of association activities, the cooperative movement and self-governing institutions. Deaf Laundry (Døves Vaskeri) started in 1869 as a private laundry run by deaf women. It exists today (2015) as a modern industrial laundry service employing 24 deaf persons with varying needs for special support and 21 persons on ordinary conditions. Another example is Dannerhuset with roots back to 1873 as a crisis and counselling centre for women (Monday Morning 2010).

According to a mapping of social entrepreneurship and social innovation in the Nordic countries (Norden 2015), in Denmark social entrepreneurship and social innovation have historically primarily been driven by passionate individuals, social enterprises, civil organisations and funds.¹³ However, recently this phenomenon has attracted more attention among local and national politicians as a way to mobilise people and groups that cannot—for different reasons—meet the growing demands at the ordinary labour market. In 2009 the first Danish municipality (Kolding) formulated a strategy of how to create more social enterprises, and afterwards more municipalities have followed with similar initiatives. These initiatives target both the creation of jobs for socially marginalised or disabled persons (socio-economic enterprises) and social innovation with a focus on how to solve problems by innovation for marginalised or disabled persons.

At the national level different support schemes for social entrepreneurship are available. A National Centre for Social Enterprises has been set up and according to Lauritzen (2015) around one-third of Danish municipalities are members of the Danish Municipality Network on Social Innovation and an increasing number of them are experimenting with schemes such as social impact bonds, participatory budgeting, community-led development initiatives and schemes to support social enterprises.

Danish universities are increasingly getting involved in social entrepreneurship and social innovation activities. In 2013 Roskilde University launched a 2-year interdisciplinary Master’s program in Social Entrepreneurship and Management (SEM) emphasising knowledge on leadership, organising and management as well as in-depth training in social innovation processes and entrepreneurship (Andersen and Hulgård 2014); Copenhagen Business School (CBS) offers a course in social entrepreneurship, and the other Danish universities have various types of courses and events focusing on social innovations and social entrepreneurship.

‘access2innovation’ is an example of a university-initiated partnership between Danish universities, civil society organisations, public institutions and business.¹⁴ The aim is to create new sustainable solutions and business models for developing countries and aid sector. Activities within this network have clear overlap to social

¹³For instance ‘The Social Capital Fund’ established in 2011 by the Danish foundation ‘Trygfonden’.

¹⁴The access2innovation network was established in 2007 by the departments of Development and Planning and Energy Technology at Aalborg University, DanChurchAid, North Denmark EU-Office, South Denmark European Office and Confederation of Danish Industry (DI). Later, more Danish universities and other partners have joined the network. See <http://www.access2innovation.com/> for further information about the network activities.

entrepreneurship and social innovation but with potential overlaps to transform these activities into sustainable business in the wider sense.

As indicated above, although concepts as inclusive development and social innovation are not explicitly formulated with any high priority in neither of the eight existing Danish universities' formal research strategies or recent (2015–2017) formal development contracts with the Ministry of Higher Education, such activities exist and seem slowly to get more momentum. The next and final section discusses current challenges that Danish universities face in their efforts to play a more active role for inclusive development and social innovation.

Current Challenges and Policy Implications

Universities' external research collaboration is propelled by 'new modes of knowledge production' (Gibbons et al. 1994) as well as by sources for funding. The increasing role for universities in inclusive development and social innovation brings new challenges for the universities to find a balance between allocating resources between teaching, research and external engagement (Benneworth and Conway 2009; Kitson et al. 2009). In Denmark, state funding for universities is allocated for teaching and research but not for the engagement activities of the types mentioned above despite universities' obligations according to the University Act from 2003 to engage in such activities (Gregersen et al. 2009).

As mentioned in the introduction to this chapter, when compared to most other countries Danish universities have for many years benefitted from increasing teaching and research budgets. Nevertheless, the significant changes in the university sector influence the context in which universities have to navigate to play a more active role for inclusive development and social innovation:

- Transformation towards a knowledge and learning economy triggers an increasing role for universities and other higher education institutions in national and regional innovation systems. This is clearly reflected in the increasing amount of university-industry collaboration. It raises questions on what criteria external partners should be selected. Research potential? Financial contribution or social impact? In a situation where research budgets are tightened, collaboration with less privileged companies and social groups may be deprioritized.
- Globalisation and increasing internationalisation of teaching and research: One consequence is an increased competition to attract funding, talented students and staff. In such a context it is often difficult to give priorities to inclusiveness of less favoured groups. Another consequence is an increased focus on research excellence, elite versus mass teaching and the hierarchy of institutions (Goddard 2009), which might be at the costs of for instance broader community engagement and social innovation.
- Increased expectations to solve and engage in the grand challenges of the twenty-first century on the local, national and global level. One important issue here is

that many of the big challenges, such as ageing, health, environmental sustainability, energy, clean water and waste treatment, do not fit into the traditional disciplinary boxes but need a multidisciplinary approach to come to solutions.

- New governance structure based on New Public Management principles implying payment by performance, increasing use of key performance indicators (KPIs) and increasing bureaucracy related to increasing external (and internal) demands for accountability and auditing. To the extent that relevant indicators reflecting activities in relation to inclusive development, social innovation and community engagement are available they often are given less priorities by the university management compared to publication and citations in high-ranked journals.

To give room for inclusive development and social innovation under the above-mentioned conditions requires that universities formulate and implement an explicit strategy on inclusive development and social innovation in order to get these activities integrated and ‘institutionalised’ in everyday teaching and research practice. Crucial elements in such a strategy are better integration of teaching, research and external collaboration and engagement, more interdisciplinary approach in teaching and research and more focus on lifelong learning.

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