

STRUCTURE and PROFILE REPORT

Full professorship: Institutional Aspects of (Higher) Education & Technology

1 General

Education and research are the cornerstones of modern technology-driven societies. There is growing recognition of the role played by education and research in the development and social cohesion of modern societies. New technologies are being introduced at breakneck speed, triggering rapid changes in labour markets and in the demand for skills. Our educational systems will also need to adapt if they are to keep pace.¹ If our schools, vocational colleges and universities are to maintain their effectiveness, quality, legitimacy and, ultimately, their public value, then they must become effective enabling environments. The planned full professorship in *Institutional Aspects of (Higher) Education & Technology* will lead the research effort into these enabling environments. This will involve an exploration of the changing role of government agencies and of the need to involve various stakeholders in decision making, as well as the effects of globalization and rapid technological change. The growing role of partnerships in teaching and research will also be examined. The chair will study the way in which enabling environments (in social science terminology: the *institutions*) are shaped, how they evolve, and how they impact the behaviour of students, staff and educational organizations.

Together with the *knowledge triangle* – a widely used concept – the latter aspect underscores the central role played by education and research in today’s knowledge-based, digital society. This triangle underscores the link between education, research and innovation. It also addresses the fundamental contribution made by high-quality education and research, in terms of human capital, research-based knowledge transfer, and economic innovation at regional and national level.

The future of learning

Education equips individuals with the knowledge and skills they need to realize their potential in society – both now and in the future – and, in particular, in the labour markets of the future. There is currently an increasing focus on 21st century skills, such as cooperation and communication skills, IT literacy, creativity, critical thinking and problem-solving skills. This poses challenges to traditional educational institutions and organizations, at a range of different levels. Catering to the demands of the various stakeholders will involve new and different institutions and enabling frameworks. These will feature modified modes of governance, as well as updated cost-sharing mechanisms and educational standards. New technologies and analytics will come into play, as will revised quality assurance systems and less hierarchical accountability mechanisms. These are turbulent times for the educational sector, at every level. The transformations taking place in education, technology and educational technology mean that the processes of institutionalization and de-institutionalization are now highly relevant research topics.

¹ For example, in 2012, the European Commission set up the “rethinking education” initiative to reform education systems across the EU. See: http://ec.europa.eu/languages/policy/strategic-framework/rethinking-education_en.htm;

Education is the interplay of technology, human action and social institutions

Technology will continue to play an important role in modern society, and this in turn will have implications for education and research. Conversely, education and research will impact technology, and the way it is incorporated into our daily lives. Emerging technologies are expanding the opportunities for training and research, while opening up new markets and new modes of delivery. This will impact access to education for different groups in society, in a variety of ways. It will also have wide-ranging implications in terms of equity and efficiency. One of the more prominent emerging technologies is IT-supported training programmes, such as MOOCs, Global Online Labs and flipped classrooms. However, IT-based information systems and transparency tools can also be used to support and improve education and research management, by means of learning analytics, benchmarking, rankings, etc. New technologies (e.g. 'big data', 'new statistics') are also triggering the emergence of novel research methods, approaches and indicators.

These developments will all impact the working life of teachers, academics and professionals working in the education sector (including those in higher education). As they interact with – and are influenced by – human behaviour and social institutions, these new technologies will shape the future of teaching, learning and research. This effect will be seen at various levels, ranging from the classroom and organization right up to national and international level.

In a world of increasingly complex educational systems, there are vital roles for social institutions, networks and actor constellations. The extent to which educational organizations (and their members) are embedded in society and in the economy, indeed their very roles and effectiveness in these areas, is influenced by institutions such as governance processes, regulatory frameworks, incentives and underlying belief systems. The key research topics in the field of education research include coordination and management issues, as well as oversight agencies and networks. These issues often require a multi-level, multi-actor systems approach.

Multi-disciplinarity and collaboration

The above-mentioned factors are shaping (or modifying) the educational domain, resulting in an increased need for research collaboration between separate academic disciplines. As elsewhere, the scale and scope of planned research in the educational field is expanding, leading to the creation of consortia and research partnerships. Educational and research organizations, as well as research groups and individual researchers, are increasingly engaging in partnerships with a wide array of external stakeholders (e.g. government agencies, businesses, communities and cultural organizations). For educational organizations, the study of thorny problems and societal challenges demands cooperation and cross-fertilization. These are essential prerequisites to excellence in research and to the effective exchange of knowledge with associated communities (both academic and societal). Academic staff engaged in studying the institutional aspects of education & technology must be prepared to transcend traditional boundaries in the interests of furthering their work. Cooperative ventures that are not constrained by borders contribute to knowledge building, while making more effective use of existing expertise. They are also vital to knowledge-based organizations, such as universities.

Professorship

The successful candidate for the role of full professor in “Institutional Aspects of (Higher) Education & Technology” will focus on ‘policies’, ‘institutions’, ‘actors’ and ‘technology’. Accordingly, the main thrust of their research will be the enabling environment for education. Special emphasis will be placed on the design, implementation and evaluation of policy and practice in education and research, at various levels. The chair’s core research area will involve the challenges confronting policy and practice in education in the 21st century. For example, which specific enabling environments, policies and interventions help schools, training institutions, universities and research organizations develop effectively and meet their objectives? In this context, effectiveness can be assessed in terms of the quality, relevance and value of the services provided (i.e. education, research). In tackling these questions, a range of disciplinary perspectives will be brought to bear. These could involve economics, management and organization studies, public administration, policy studies, political science, sociology, education sciences and the associated role of technology. In addition, comparative regional and international viewpoints will help to expand the knowledge base with regard to the institutional aspects of education (including higher education) & technology.

We are seeking candidates with a broad-based and in-depth set of competencies in the area of education and policy studies. This mix will enable the full professor to combine a profound understanding of the field of education with an ability to straddle the behavioural sciences and the technological disciplines. The candidate is expected to make wide-ranging contributions to teaching and research within BMS. In addition, they must be committed to advancing the High Tech Human Touch vision of the University of Twente, as embodied in BMS’s research vision. The ideal candidate should preferably have a solid academic grounding in the social sciences, with a strong interest in the computational and data analysis aspects of contemporary social science. They should also be open to the potential of disciplines beyond their own field. In addition, they must have a keen interest in technology’s evolving influence on educational developments in general, and in its ability to amplify the impact of such developments. The chair is expected to engage in collaborative research projects, covering a range of topics, between BMS and University of Twente faculties in the domain of technology. These could include the transformational powers of health technology and the training and education of healthcare professionals, for example. Other topics might be the impact of the changing roles of University Medical Centers in education (including higher education) and as ‘learning hospitals’, or the development of smart/intelligent branches of industry (and the impact of this on life-long learning and on learning on the job). Yet another area might be the role of education and educational institutions in building resilient digital societies and communities. Finally, there is the role of traditional educational institutions in an age of sensing, of big data, of data-smart cities and regions or of ‘self-learning and deep-learning industries’.

2 Research

We are seeking an experienced candidate at full professorial level. He or she should have strong management and leadership capabilities, with a proven track record in attracting external grants and European research funding. One of their main responsibilities will be research, including a major involvement in the acquisition,

execution, leadership of and management of externally funded research projects. They will also be responsible for the supervision of Master's and PhD students within CHEPS in particular and – more broadly – within the Faculty of BMS in general. This research effort is being increasingly integrated into the main research themes of the Faculty of BMS and its Institute for Innovation and Governance Studies (IGS), as expressed in the strategic vision report entitled *BMS under Steam*:

- Learning: 21st Century Skills, Educational Technology and The future of Learning.
- Resilience: Smart Cities, Sustainable Communities and Safe Societies.
- Emerging Technologies and Life in the Digital Society (Disruptive innovation).
- Industry: Smart Manufacturing and Business models for the Circular economy in the fourth Industrial Revolution.
- Health: Health Technology, Health care systems and the Transformation of Healthcare.

CHEPS' research effort currently spans comparative policy studies on themes such as governance, funding, quality and internationalization in higher education. The candidate will build on this by reaching out to other educational sectors and to those involved in BMS research themes. This effort will centre on “Learning”, “Resilience” and “Emerging Technologies”. As such, CHEPS' main research lines (and those of this full professorship) will include:

- Smart governance: Smart governance touches on the crucial question for many countries and regions of how to achieve the objectives for education systems and institutions in a situation where authority and responsibility are reshuffled across many levels. Not only the rules of the game, but also the number and type of players involved are changing. The important issues here are competition, collaboration, contracting, autonomy, trust, and control. Around the world, there are many initiatives aimed at reforming or modernizing the governance of education, at institutional, national and international level. In the domain of smart governance, research is focusing on identifying incentives that most effectively support innovation-oriented societies and on the integration of new technologies. Other such topics include regulations that would enable education to operate more efficiently and equitably, and ways in which the quality and relevance of graduates and knowledge might be guaranteed.
- Diversity and multi-functionality: Society is imposing ever greater demands on educational institutions, demands that require educational systems and institutions to embrace adequate levels of diversity. This applies not only to content but also to modes of delivery and to providers. It is also reflected in trends such as tailor-made talent-oriented education, variety in modes of education delivery and global competition in research and training. This trend is both driven and facilitated by the ‘massification’ and integration of new technologies in education. In an environment as dynamic as this, education and research institutions need to present themselves as effectively as possible and to position themselves within their national systems and within the international context. Spurred on by rankings, some institutions may be tempted to imitate the ‘league leaders’, while others may opt for more highly

specific profiles. The issue of how best to manage and encourage diversity and multi-functionality is one of the central research questions in this domain. Another such question concerns the role that classifications and rankings can play in providing transparency in the education and research landscapes. A third research question is what indicator sets and information technologies can be used to support more effective institutional strategies, in addition to better informed governmental policy interventions.

- Relevance, connectivity and impact: education and research are tasked with addressing the world's major problems in areas such as health, energy, the natural environment, demographics, social inclusion, etc. This is reflected in the international *Grand Challenges*, including those of the European Union. It also underpins the University of Twente's High Tech – Human Touch focus, as well as BMS's strategic profile (see the research themes above). In addition to providing excellent education and research, educational and knowledge institutions are expected to deliver their services in ways that are relevant to their students, their business community, their region and their nation. This requires an understanding of the design and implementation of policies, and – more particularly – of their impact, as measured by performance indicators and quality assurance systems, for example. How is the public value (output, quality and relevance at system and institutional level) of educational and research institutions impacted by their performance and by educational policies? This is one of the central research questions in this domain. This value is reflected by factors such as access, educational attainment levels, resource efficiency within the system, employability of graduates, etc. Such performance indices are becoming increasingly prominent in the context of mutual obligations and in terms of the interconnectivity of the various partners involved. Indeed, they may be articulated in Public-Private Partnerships between schools, universities and their external partners, or in performance agreements between public authorities and their local schools or knowledge institutions.

CHEPS wants to continue fuelling the debate on these themes among academics and practitioners, with the aim of facilitating the design and successful implementation of smart, evidence-based education policies.

3 Education, teaching and training

CHEPS is involved, albeit to a limited extent, in teaching at Bachelor's and Master's level. This includes regular teaching in some modules and supervising the thesis work of students from the Faculty of BMS, particularly in European Public Administration, International Business Administration and various overarching modules. CHEPS' long-term mission is to enhance and expand its teaching input, within the broader context of developing the Faculty's Bachelor's, Master's and PhD programmes and those of the Twente Graduate School (TGS). This will involve further development of the curriculum, marketing work and student recruitment, as well as teaching and the supervision of postgraduates. The chair will be charged with spearheading this development and with gradually integrating the research-based CHEPS Institute into the University of Twente's educational, training and professionalization programmes.

4 Level

Given the importance of this leadership position, and in view of the department's profile and the integration-oriented mission of this tenured post, this will be a full-time appointment (1.0 FTE) at full-professorial level.

5 Formal positioning

The chair will be embedded in the Faculty of Behavioural, Management and Social Sciences (BMS), and part of the staffing structure of CHEPS. As part of BMS's newly-formed Technology, Policy and Society (TPS) cluster, CHEPS cooperates closely with the cluster's other departments (Health Technology & Services Research (HTSR), Science Technology and Policy Studies (StePS), Governance and Technology for Sustainability (CSTM), and Philosophy).

CHEPS is a policy research institute. Its role is to explore the trends and policies that shape the functions of higher education and research systems, including those of individual institutions and their academic and student communities. CHEPS' research projects, and the approaches it uses, are based on the various social science disciplines in the arena of public administration. CHEPS is widely recognized, throughout the Netherlands and elsewhere, for its comparative approach (in an international context) to the phenomena and relationships in its field of study. With a track record in research spanning more than thirty years, CHEPS has accumulated a substantial body of knowledge and has acquired a reputation for excellence. Today, CHEPS is firmly embedded in various national and international networks. Its research is conducted within the Faculty of BMS's Institute for Innovation and Governance Studies (IGS). CHEPS aspires to widen the scope – and increase the impact – of higher education policy research, by intensifying its research links with other groups within the Faculty of BMS. Aside from the departments in the TPS cluster, other natural partners in the Faculty are the Netherlands Institute for Knowledge Intensive Entrepreneurship (NIKOS), the department of Instructional Technology (IST), the Institute for Teacher Education, Science Communication & School Practices (ELAN) and the Research Methodology, Measurement and Data Analysis department (OMD).

6 Management tasks

The full professorship will be responsible for providing scientific leadership to CHEPS, while building bridges to other departments within the Faculty. This will include coordinating CHEPS' research programme and supervising its PhD students, as well as acquiring and managing externally funded research projects. One long-term goal is for the chair to join the Faculty of BMS's central management team, with responsibility for the Teaching Affairs portfolio.

If this latter function materializes, CHEPS' director (*Vakgroepvoorzitter*) will have overall responsibility for strategic, organizational, financial, HR and operational matters, for example. The director will also represent CHEPS within BMS, IGS, the University of Twente, and a range of national and international academic fora.

7 Joint appointment

We have no intention of establishing a joint appointment with another Faculty or cluster at the University of Twente. All full professors at BMS are considered to be “faculty professors”, so the chair in question will be faculty-wide in scope and its holder will be part of the overall BMS research management team. In this context, the full professor will cultivate and intensify links between the Faculty’s various clusters and departments.

8 Interuniversity co-operation

In the area of research and teaching, the new chair is expected to initiate and expand cooperation with academics and research organizations both at home and abroad. As a research institute, CHEPS is involved in numerous international partnerships in research, teaching and consultancy, in Europe and elsewhere. This will offer ample opportunities for the chair to develop externally funded research and teaching programmes, and to contribute to existing programmes.

9 Funding

The chair will be funded from the central BMS budget and by internal revenue from successfully completed PhD theses and externally funded research activities carried out for research councils and other contracting organizations.

10 Overall plan of chairs

The chair forms part of the overall staffing structure of the Faculty of Behavioural, Management and Social sciences (*Domeinplan*). This structure is one of the elements of the faculty’s *BMS under Steam* strategy, which is currently in the process of being ratified by the Executive Board of the University of Twente. There are no comparable chairs in this area at the university.

Profile of the candidate

- 1 Expertise in the field of education policy, one or more of its constituent disciplines, comparative policy research, as evidenced by international publications and networks.
- 2 Proven ability to further the theoretical bases for education policy research and willingness to co-operate with other disciplines that support the High Tech – Human Touch profile of the University of Twente.
- 3 Affinity with policy developments in the area of the computerization of education and society.
- 4 The capacity and willingness to contribute to the Institute for Innovation and Governance Studies (IGS) of the University of Twente.
- 5 Proven ability to supervise PhD research and junior research staff.
- 6 Proven ability to acquire and co-ordinate multi-national research projects awarded by research councils and other contracting agencies.
- 7 The capacity and willingness to co-operate with relevant stakeholders and research organizations in the national and international education and research domain.
- 8 The capacity and willingness to contribute to internationalization and knowledge transfer, as foreseen in the *UT2020* and *BMS under Steam* strategies.
- 9 Capacity to lead and motivate academic departments and programme staff.
- 10 Capable of connecting people and groups.