

Profile full professor: Institutional Aspects of (Higher) Education & Technology

General

Education and research are the cornerstones of modern technology-driven societies.

Education and research are more than ever recognized to be important for the development and social cohesion in societies. As new technologies are created in rapid succession and labour markets and the demand for skills are changing fast, our education systems will also need to adapt.¹ Constructing enabling environments for schools, vocational colleges and universities is critical to the functioning of our education systems – their effectiveness, quality, legitimacy and, ultimately, their public value. The envisaged chair in *Institutional Aspects of (Higher) Education & Technology* will lead the research on these enabling environments – studying the changing role of governments, the need to involve different stakeholders in decision making, the effects of globalization, rapid technological change and the increased role of partnerships in teaching and research. The chair will study how enabling environments – in social science terminology: the *institutions* – are shaped, how they evolve and how they affect the behaviour of educational organisations, staff and students.

As part of the latter, and to underscore the important role of education and research for today's knowledge-based and digital society, one can also point to the well-known concept of the *knowledge triangle*. This triangle stresses the link between education, research and innovation and addresses the crucial contribution that high quality education and research can make to human capital, research-based knowledge transfer and innovation in the (national, regional) economies.

The future of learning

Education equips individuals with the knowledge and skills they need for realizing their potential in (today's and tomorrow's) society – in particular the labour markets of the future. There is increased attention for 21st century skills, that is: collaboration and communication skills, ICT literacy, creativity, critical thinking, and problem solving skills. This poses challenges to the traditional education institutions and educational organisations at different levels. To cater for the demands of the various stakeholders, different institutions and enabling frameworks are called for – in terms of adapted modes of governance, cost-sharing mechanisms, educational standards, apply new technologies and analytics, revised quality assurance systems, as well as more horizontal accountability mechanisms. Processes of institutionalization and de-institutionalization are highly relevant research topics in these times of transformation in education, technology and educational technology at all levels in the educational sector.

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 playing an important role in modern society. This will affect education and research in several ways. At the same time, education and research will impact technology and the way it will be incorporated in our daily lives. Emerging technologies widen opportunities for training and research and open up new markets and new modes of delivery. This will impact access to education for different groups in society in different ways and with different implications in terms of equity and efficiency. When it comes to emerging technologies one can think of ICT-supported training programmes, such as MOOCs, Global Online Labs and flipped classrooms. However, ICT-based information systems and transparency tools can also support and improve education and research management (e.g. through learning analytics, benchmarking and rankings). Moreover, new research methods, approaches and indicators are emerging, thanks to new technologies (e.g. 'big data', 'new statistics'). All of this will affect the working life of teachers, academics and professionals working in the (higher) education sector. In its interaction with human behaviour and social institutions, the new technologies will shape the future of teaching, learning and research, and will do so at various levels - from the classroom and organizational level to the national and international level.

Within the growing complexity of education systems, social institutions, networks and actor constellations play a crucial role. Governance processes, regulative frameworks, incentives and underlying belief systems – in short: *institutions* – shape the effectiveness, role and embeddedness of education organizations and their members in economy and society. In the field of education research, issues of coordination, steering and oversight agencies and networks are key topics of research. The study of these issues will often require a multi-level, multi-actor systems perspective.

Multi-disciplinarity and collaboration

Due to the above-mentioned factors that are (re-) shaping the educational domain, the need for research collaboration across disciplinary borders will increase. The scale and scope of research to be conducted in the educational field, as elsewhere, is expanding, leading to the creation of consortia and research partnerships. Educational and research organizations, as well as research groups and individual researchers, increasingly engage in partnerships with a wide array of external stakeholders (e.g. governments, businesses, communities, cultural organisations). In education organizations, collaboration and cross-fertilisation to investigate wicked problems and societal challenges is crucial in order to excel in research and to effectively exchange knowledge with surrounding communities (academic as well as societal). A professor that studies institutional aspects of education & technology will be prepared to work across borders while studying this phenomenon. Cross-border departmental and disciplinary collaboration contributes to knowledge building, increases the utilisation of existing expertise and is vital to knowledge-based organizations such as universities.

Professorship

The newly to be appointed full professor in "Institutional Aspects of (Higher) Education & Technology" will focus on 'policies', 'institutions', 'actors' and 'technology', thus doing research on the enabling environment for education. A special emphasis will be placed on the design, implementation and evaluation of

education and research policy and practice on different levels. Addressing the challenges confronting policy and practice in education in the 21st century will constitute the core research area for the chair. For example, what enabling environments, policies and interventions help schools, training institutions, universities and research organisations develop effectively and meet their objectives? In terms of the latter, effectiveness may be assessed with an eye upon the quality, relevance and value of the services (i.e. education, research) provided. Various disciplinary perspectives will contribute to answering these questions. The disciplinary perspectives may derive from economics, management and organization studies, public administration, policy studies, political science, sociology, education sciences and the role of technology within them. In addition, international and regional comparative perspectives will contribute to a broader knowledge base on the institutional aspects of (higher) education & technology.

We are looking for candidates that will have a T-shaped set of competencies in the area of education and policy studies. This means that, next to a deep understanding of the education field, the full-professor will be able to reach out across behavioural sciences and technology disciplines. The candidate should be able to broadly contribute to teaching and research within BMS and be committed to advancing the High Tech Human Touch vision of the University of Twente, also expressed in the BMS research vision. The envisaged candidate should be preferably a scholar in the social sciences, with a strong interest in the computational and data analytical aspects of modern social science and have an open mind for disciplines outside of her/his field, as well as a keen interest in how technology will change and can be used to further the impact of educational developments. The chair is expected to engage in collaborative research projects between BMS and faculties in the technology domain of the University of Twente at various fields of application. One may think of the transformational powers of health technology and, for example, the the training and education of healthcare professionals or the consequences for the changing position of Academic Hospitals in the field of (higher) education and as 'learning hospitals'); the development of smart/intelligent Industry (and, for example, its consequences for life long learning and learning on the job); the role of education and educational institutions in building resilient digital societies and communities or the the role of traditional educational institutions in an age of sensing, big data, data-smart cities and regions or 'self- and deep-learning industries'.

Research

We are looking for an experienced candidate at full professorial level. He or she should have strong management and leadership capabilities, with a proven track record in the mobilisation of external grants and European research funding. One of the main responsibilities will be in research, including a major involvement in the acquisition, execution, leadership and management of externally funded research projects, and the supervision of Master's and PhD students within CHEPS and – more broadly – the Faculty of BMS. This research is and will be further integrated in the main research themes of the Faculty of BMS as expressed in the strategic vision report *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 4rd Industrial Revolution.
- Health: Health Technology, Health care systems and the Transformation of Healthcare.

Building on the foundations of CHEPS' research – comparative policy studies on themes like governance, funding, quality and internationalization in higher education – the will further develop the research programme of CHEPS by reaching out to the other education sectors and BMS research themes, with the strongest focus on “Learning”, “Resilience” and “Emerging Technologies”. As such, the main research lines of CHEPS and 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 kind of players involved are changing. Important issues here are competition, collaboration, contracting, autonomy, trust, and control. Around the world, one can observe many initiatives to reform or modernise the governance of education – on national, supra-national and institutional level. In the domain of smart governance, central research questions address what incentives support best innovation-oriented societies, the integration of new technologies, what regulations allow education to operate in an efficient and equitable way, and how the quality and relevance of graduates and knowledge can be guaranteed?
- Diversity and multi-functionality: The growing number and complexity of societal claims on education institutions calls for an adequate level of diversity of and within education systems and institutions. Diversity is seen both in terms of content and in terms of modes of delivery and providers. It is also reflected in trends like the tailor-made talent oriented education, various modes of education delivery and the global competition in research and training. The ‘massification’ and integration of new technologies in education both drive and facilitate this trend. In such a dynamic context, education and research institutions need to articulate their profiles and to position themselves within their national system and international context. Spurred by rankings, some institutions may tempt to imitate the ‘top of the league’ institutions whereas others may choose more specific profiles. Central research questions in this domain include how diversity and multi-functionality can be best governed and stimulated; what role classifications and rankings can play in providing transparency in the education and research landscapes; and, what indicator sets and information technologies can be used to support more effective institutional strategies as well as better informed governmental policy interventions.
- Relevance, connectivity and impact: education and research are expected to address the world’s major problems on areas such as health, energy, the natural environment, demographics, social inclusion, etc. This is not only

reflected in the international (e.g. European Union's) *Grand Challenges* but also forms the basis for the University of Twente's focus on High Tech – Human Touch as well as the BMS strategic profile (see the research themes above). Next to providing excellent education and research, education and knowledge institutions are also expected to deliver their services in ways that are relevant to the region, the nation, their students and business. This means that one not only needs to know about the design and implementation of policies, but particularly also about their impact, for instance as measured by performance indicators and quality assurance systems. Central research questions in this domain include what impact education policies and the behaviour of education (and research) institutions have on the outputs, quality and relevance at system and institutional level – their public value. One can think in terms of access and educational attainment levels, resource efficiency of the system, employability of graduates, etc. Such performance linkages are increasingly visible in mutual obligations and interconnectivity of the partners and may be expressed in Public-Private Partnerships between schools, universities and their external partners or in performance agreements between public authorities and schools or knowledge institutions.

It is CHEPS' ambition to continue feeding the debate among academics and practitioners on such themes in order to design and successfully implement smart, evidence-based education policies.

Education, teaching and training

CHEPS is (to a limited extent) involved in teaching at bachelor and master level, including regular teaching in some modules and thesis-supervision of students from the Faculty of BMS, particularly in European Public Administration, International Business Administration and some overarching modules. CHEPS is on a mission, in due time, to further contribute and further substantiate this teaching inputs in the development of the bachelor, master and doctoral programs of the Faculty and the university's Twente Graduate School (TGS). This concerns the further development of the curriculum, marketing and recruitment of students as well as teaching and postgraduate supervision. The professorship will be charged to lead this development and gradually integrate the research based Cheps Institute with the educational, training and professionalization programs of the UTwente.

Level

Given the importance of this leadership position, the profile of the department and the integrative mission of the tenure, a fulltime appointment (1,0) at full-professorial level is envisaged.

Formal positioning

The chair will be located within the Faculty of Behavioural, Management and Social Sciences (BMS), and from thereon as part of the CHEPS formation. CHEPS is part of the newly-formed cluster Technology, Policy and Society (TPS) within BMS, and as such closely collaborates with the other TPS departments: Health Technology & Services Research (HTSR), Science Technology and Policy Studies (StePS), Governance and Technology for Sustainability (CSTM), and Filosofhy.

CHEPS is a policy research institute studying the trends and policies that shape the functions of higher education and research systems, their individual institutions in and their academic and student communities. CHEPS' research projects and approaches are based on the various social science disciplines that together constitute the area of public administration. CHEPS is nationally and internationally recognized for its international comparative approach towards the phenomena and relationships it studies. CHEPS has more than 30 years of research experience, which has led to a wide body of knowledge and an excellent reputation. CHEPS has become firmly embedded in various national and international networks and its research is part of the BMS faculty. Its aim is to widen the scope of higher education policy research and increase its impact by intensifying CHEPS' research links with other groups in the BMS faculty. Next to the departments within the TPS cluster, other natural partners in the Faculty are the department of Instructional Technology (IST), the department of Teacher Development (ELAN), the Center for Knowledge Intensive Entrepreneurship (NIKOS) and the Research Methodology, Measurement and Data Analysis department (OMD).

Management tasks

The full-professorship entails the responsibility to provide scientific leadership to CHEPS, while bridging to other departments of the Faculty of BMS. This will include coordinating CHEPS' research programme, supervision of its PhD candidates, and securing the acquisition and management of external research projects. In addition, the chair is envisaged – on the longer run – to become head of the department CHEPS (*Vakgroepvoorzitter*) with overall responsibilities that include strategic, organizational, financial, HR and operational leadership, representing CHEPS within BMS, the UT and various national and international academic fora.

Interuniversity co-operation

The new chair is expected to initiate and substantiate co-operation in the area of research and teaching with other national and international academics and research organisations outside the University of Twente. As a research institute, CHEPS is involved in multiple international collaborations in research, teaching and consultancy in Europe and beyond. This will offer ample opportunities for the chair to develop and contribute to externally funded research and teaching programs.