

On Knowledge Bases and Maps of Knowledge

Some quiddities on getting to know in contemporary higher education

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The assignment given to higher education may be said, in very general terms, to contribute to our knowledge of how to cope with life locally and globally in acceptable and possibly innovative and better ways. Lack of sustainability (ecological and financial crisis, lack of equity etc.) might to some extent be seen as illustrative of our coping. Our ways of getting to know- as well as of practically putting our knowledge to use, may be seen as reflected in the situation. Our contemporary maps of knowledge, relations between “theory and practise” are challenged. The article briefly introduces a normative and epistemological backdrop to our institutional mapping of knowledge.

Using the central paragraph of the Norwegian Act relating to Universities and University Colleges (§1-3) as a case of institutional mapping, different knowledge bases are discussed. It is suggested that the formulations of the Act might provide an opportunity bridging gaps between theory and practise. It might provide an institutional and organizational base for critical discussions regarding our ways of knowing, for transdisciplinary approaches to teaching and learning that might be needed in contemporary society. The article also addresses how the opportunity inherent in this paragraph is easily lost through political and institutional administrative practices, giving priority to hierarchic, disciplinary, standardised and quantifiable interpretations.

Our ways of doing things reflect processes of knowing

I use the concept of “quiddity” in the subtitle in the sense of some substance shared by others of a kind. In our case this is how people – we – try or get to know. Thus I start this article by hinting at what might be called an epistemological backdrop to our institutional mapping of knowledge as exemplified by the Norwegian case.

Our ways of doing things, producing and thinking have been deeply embedded in natural development since the “Big Bang”. Paraphrasing the philosopher Schelling, we could say that mankind since then has developed into “a way Nature reflects upon itself”. These reflections – and doings – never occur outside Nature, but always within it. They never occur in solitude but always in consort, implying awareness that we as humans share basic characteristics, that we within our collectives also carry some uniqueness.

Somehow our doings (whether made explicit or not) will reflect how we understand ourselves and some basic assumptions concerning our knowledge of how we come to know. Gregory Bateson (1987 *ibid*) defines epistemology as “ *the science studying the process of knowing – the interaction of the capacity to respond to differences, on the one hand, with the material world in which those differences somehow originate, on the other.*”¹ These processes of knowing might thus be seen as our very practical ways of adapting to our environment.

When talking about “knowledge” we may also refer to processes of labelling or mapping according to varieties of fields identified and experienced. The labels or naming eventually constitute maps of knowledge. These maps may refer to individual as well as institutional, national and even global levels and to relations within and between the levels. These maps certainly have changed significantly throughout history.

According to Bateson (1979, 1987) our knowing and our ways of gaining knowledge are all about naming and names of relationship. The territory, the material world (including our physical selves), certainly asks to be labelled, mapped and accounted for. And we are perceptually equipped to do so. (Gibson 1980). However, our mapping is not identical with this material world. “The map is not the territory,” Bateson reminds us. Responding to differences as manifested by metaphors and language, by maps of classifications, theories and ideologies, is different from the process of that responding (Bateson 1987, p.16 ff). We may, perhaps, identify our maps of knowledge as “maps of maps and of mapping”.

When labelling or mapping the physical environment in which we are embedded, this mapping hardly affects the basic characteristics of that environment. Rather we try to achieve better or new understanding of “what is there – how and how come.” Our mapping never has concerned or hardly ever will concern the orbits of planets. Our mapping of genomes would also be irrelevant to the basics of chemical substances or relations – at least until our capacity for responding and mapping has brought us into the position of manipulating them according to this mapping.

As we on institutional, national or international levels identify goals of knowledge development within education and the criteria of qualifications and career development, these may be said to constitute versions of “maps of knowledge.”

¹ Foucault (1970) states that the threshold above which there is a difference and below which there is similitude is indispensable for the establishment of even the simplest form of order.

The mapping of our educational institutions by labels of organization and governance, of subjects, disciplines, assessment, tracks of qualification and career and social relations is normative to our doings. The labels of typology and form immediately affect the process: our priorities, the way we pose our questions, spend our time and money and present our results. From our labelled positions we respond in ways qualitatively different from those of planets and genomes.

Through periods of history, centralistic models or maps of knowledge have provided structures for integrating different disciplines and ways of getting to know. In medieval Europe, theology allied with philosophy constituted key academic disciplines and provided an ideological structure for the whole. Different disciplines of knowledge had to be formulated according to the basic tenets of belief, as has been (is) the case of the theocracies and political regimes of our time. Every centralized system survives only as long as it can suppress or devaluate all other viewpoints that would structure the world of knowledge in a different way (Herbst 1973). To the extent that the experiences of practical living among rank and file seem to contradict or question the prevailing tenets, they may turn into sources of heresy – to be suppressed or ignored. Bureaucratic, hierarchic, forceful and even violent systems of suppressing diverging viewpoints and practices have been and are developed through history – to this day.

At what seems to be an accelerating speed, our human mapping – or “knowing” – implies a redesign of our material world. Rapid changes follow pertaining to the ecological balance as well as to social relations – and maybe to changes in our understanding of ourselves as human beings. These days we experience our natural environment striking back. Our ways of doing, the way we produce and organize according to our labelling and knowledge so far, turn out to be unsustainable, maybe even to be schismogenetic – running out of hand. (Bateson (1972)

If the sustainability of human life is to be a basic value of our doings, our knowledge and ways of getting to know may thus be questioned or even seen as falsified. Our maps of knowledge are turning into weak instruments of navigation. *“Paradoxically science’s grip on the reality of the natural world began to disintegrate at the very time when its power to manipulate, intervene and alter that reality was increasing”* (Nowotny et al. 2001, p.183). These reflections constitute a backdrop when looking into some “maps of knowledge” represented by the formulations and practice of the Norwegian Act relating to Universities and University Colleges and also regarding routes of qualification.

Formulating the knowledge base for teaching. The Norwegian Act.

The main assignment given to the higher education sector regarding teaching is defined in the key paragraph of the Norwegian Act relating to Universities and University Colleges: §1-3.

This paragraph has the following formulation (in my translation):

*The teaching shall be based on the foremost within research, professional and artistic development work and experience-based knowledge.*²

In the following, I will look at possible perspectives on or interpretations of this paragraph. I will examine it in the context of other official regulations for qualification and career advancement in academic tenure positions, as well as of incentive systems. I will thus try to identify how the map is put to use.

Basically the paragraph seems to confirm the close relationship between teaching and learning on one hand, and research and development (R&D) on the other.

Three basic elements in this mapping sentence seem to be evident, such that a preliminary interpretation can be offered:

- It makes a distinction between three different bases of knowledge, or possible ways of getting to know: a) by (presumably academic/scientific/disciplinary) research, b) by development work (presumably professional/interdisciplinary, academic and/or artistic) and c) by (presumably practically achieved) experience.
- It puts forward criteria and assessments of quality: the foremost (or best) thus also implies comparison as well as systems of assessment and ranking within the different bases.
- The point of departure is the teaching (presumably as an activity), related to what we learn and how we learn as well as to how bases of knowledge are put to use and how selections of the “foremost” are come by and possibly challenged and developed.

I will first examine some possible ways of interpreting the three knowledge bases, after which I will look briefly into criteria of quality and finally at different routes of qualification in Norwegian higher education

² I have used the concept “professional” for the Norwegian term “faglig” used in the Act.

In the official “termbase for Norwegian higher institutions” made by the Norwegian Association of Higher Education (UHR), the concept “professional” does not appear. The concept “fag” in the termbase is linked to “academic,” “discipline” or “subject.” In different Norwegian dictionaries, the concept of “faglig” is translated as “professional”, “skilled”, or as “denoting a field of or area of human knowledge”. (Kunnskapsforlaget 2003, Norsk Riksmålsordbok 1937-57). What in Norwegian is called a “fagmann” is translated as “craftsman” (Haugen 65, Brynhildsen 02-27). The English translation of the termbase thus might imply a fairly narrow interpretation of a key concept.

The three knowledge bases

There are several ways to interpret the formulation of and the relationship between the three bases of knowledge as stated. I will suggest four:

1. The formulation may be seen as a feasible solution in a particular political/historical situation, possibly motivated by the need to find concepts that could unite in one Act in the 1990s the plurality of education at universities and colleges offering professional programmes and at art schools.
2. The formulation may be seen as defining three different – possibly segmented and not interrelated – categories or bases of knowledge, and different routes of “how to know”.
3. The formulation may be regarded in a hierarchic perspective in which one category follows from the other in the process of getting to know.
4. The formulation may be viewed as pointing to different but interrelated and possibly interactive approaches to knowledge – distinct, but possibly also overlapping within given situations and contexts.

In the following I will discuss each of the above four points.

1. A formulation that makes political ideas feasible

Looking at the formulation in a historical perspective and explaining it as making political ideas of a coherent educational system feasible at a specific time may be of significance, possibly due to the need to find a formulation that includes schools of art. The perspective may remind us of the possible contingencies inherent in processes of mapping, but would otherwise be somewhat beside the scope of this article. What might be of interest in our context is that the integration of professional (or skilled), artistic and empirical knowledge in the Act indicates in itself the existence and acceptance of such knowledge bases. This acceptance has furthermore been spurring the development of staff qualification programmes based on professional and artistic development work and empirical learning at several university colleges, including the Norwegian Academy of Music.

2. A formulation that indicates segmented knowledge bases

Understanding the formulation of the Act as defining segmented sets of knowledge bases may be seen as in accordance with the prevailing organization of the sector. A quick glance at the organizational charts of universities and university colleges on different levels hardly reveals organizational units signifying “development work” or “experience-based knowledge.” To some extent, within professional programmes of education, periods of time can be identified

on the operative level of organizational charts as “periods of practice”, although rarely with abundant information on contents or systems of assessment.

The maps of the units rather label sets of research and/or professional disciplines. At the universities the organizational charts label the different faculties according to basic fields of science such as mathematics and nature, the humanities, social sciences and some faculties of professional (or semi-professional) education such as medicine, dentistry, law, theology and education. At Norwegian university colleges, the departments offering professional (or semi-professional) courses of education will prevail. Within the faculties or departments, the next level of organization will label institutes or units of further scientific or professional specialization. The lowest organizational level is represented by subject curricula, courses and modules defined by content and extent as well as by systems of schedules, lectures and assessment/feedback within systems allocating resources by time, place, money and credits. Through the curricula, specialized disciplinary subjects are identified and defined in detail (theories/methods/findings/history of mathematics, physics, psychology, sociology, pedagogy etc. in separate paths, courses and modules). To some extent, at departments of professional education at university colleges, the subjects and specializations from basic scientific disciplines will reappear at this organizational level, most likely as examples of “the foremost – or best” according to the knowledge bases.

A basic characteristic of the prevailing organizational charts of disciplines and subjects thus seems to be segmentation. The fields of knowledge tend to be split into a number of independent parts. Knowledge is assumed to be valid through concentration on some small segment of the field. Cross-disciplines do emerge, eventually turning into new sub-disciplines floating temporarily in the academic void. Practical problems are tentatively subsumed under or reformulated to fit some particular speciality, or a new scientific or professional speciality may emerge to solve a specific problem (Herbst 1975, p.190).

This segmentation is long-standing, especially in European academic institutions. Research into the field almost 50 years back points to the problem of higher education represented by the fragmentation of scientific endeavour into small units, hampering the development of new fields and multidisciplinary research (Ben-David and A. Zloczower, 1962). These insights are somewhat repeated by Gibbons et al. in 1994, the latter pointing to the growth of universities during the past decades followed by disintegration – a ceaseless scientific subdivision along with new disciplines and a formidable post-modern publishing industry (Gibbons et al.1994). Students are supposed to read and know about basic scientific results and to rehearse, discuss,

copy and reproduce them by assessment tests to begin with, and possibly to add to them in the future.

It is hardly controversial to suggest that active communication, collaboration or cooperation across borders of disciplines, subjects and specializations linked to professional practice is not typical within academic institutions on any levels (Bjørke et al. 2009) The formulations in §1-3 of the Act do not imply a segmented or fragmented organization and practice of educational institutions, nor explicitly any other organizational mapping. The organization in which it is put to use seems, however, to be characterized by segmentation and by fragmented disciplinary-based teaching. A question raised is how these principles of organization relate to actual challenges of practical professional performance.

A particular effort to look into these questions is represented by Gibbons et al. in “The New Production of Knowledge” (1994) and the follow-up of Nowotny et al. (2001), arguing that new modes of knowledge production are about to replace or reform established institutions of higher education, disciplines, practices and policies.

3. A hierarchic interpretation of the formulation

When our §1-3 is mentioned in administrative, academic or professional settings, it is mostly referred to as “*the paragraph stating that teaching should be research-based*”. The subtext of this common formulation, most often not discussed or reflected on but rather given as the doxa of the academic field, seems to be a) that knowledge should primarily be understood as derived from scientific research, and b) that teaching, practical implementation or further development quite instrumentally follows scientific research (preferably evidence-based – as identified by natural sciences).³ As teachers and professionals, we are consequently expected to be involved in processes of knowing that have scientific research and theory as the point of departure as well as justification. Among scientific disciplines, the sciences of nature (and mathematics) would be ranked on top of the hierarchy, social sciences possibly to be derived. Learning by practical experience or professional and artistic development is hardly to represent bases of knowledge but rather “hearsay.” The categories of practical teaching and development work as derived from and carried through in consort with professional experience and testing may thus represent the lower and less prestigious ranks of the academic hierarchy. Schön (1983) argues that this perspective has been inherent in

³ The common use of the term “evidence” in Nordic academic lingo seems to denote “scientifically proved, preferably by the use of randomized experiments and statistics”. In English the concept of “proof” seems a more adequate term in this connection.

professional schools since their inclusion in universities from the beginning of the twentieth century. He questions the hierarchic and instrumental understanding of knowledge, leaving very little space for professional knowledge developed through careful testing and reflection – in action.

The hierarchic and instrumental interpretation of the Act is in accordance with what Gibbons et al. (ibid) term “Mode I” of knowledge production. In this production mode, problems are set and solved in a context governed by the disciplinary – largely academic – interests of a specific community. It is hierarchic and tends to preserve its form. This production mode is certainly compatible with both segmented and hierarchical organization charts. It is compatible with the organization of separate small, content-based modules of teaching, and with simple and quantifiable systems of accounting and balance sheets, remuneration, assessment, predictability and control. In their work, Gibbons et al. suggest the development of transdisciplinarity, heterarchical and transient forms of knowledge production (Mode II). The transition to another “mode” does not exclude the importance of basic scientific research. Returning to our initial “epistemological backdrop”, we are as human beings deeply embedded in the natural development after the “Big Bang.” We are, according to Darwin and his followers, buds on the complex tree of life that have so far managed to adapt and survive. According to Bateson (1987), a basic characteristic of living things (creatura) is the ability to observe differences and to react to these differences as “differences making a difference”. Following Gibson (1980), our perceptual system is biologically tuned or calibrated according to the affordances of our surroundings. It enables us to establish invariant structures (stable systems of recognition and orientation) based on perceptual systems that are ambient and ambulatory. These perspectives seem to correspond well with current neuroscience that has detected brain grid-cells that enable us to make spatial orientation (Moser E. and Moser M.B., *Scholarpedia* 2(7): 3394 2007).

The point is that our forefathers could not possibly have started knowledge development or climbed the curves of learning on the basis of any theory. A unilateral hierarchic perspective is hardly feasible. Neither could our forefathers have set out on this journey single-handed, but always related as members of a community. They must have started with observations and reactions to differences, sharing experiences. The reflections must have oscillated between observations, sharing experiences, trying out what might be good, working well, finding explanations, making sense of (naming) observations and experiences. Eventually testable theories were developed, spurring production, new observations, experiences, reflections shared etc. in continuous spirals – like feedback processes or processes of abduction, or of

successive approximation. Such processes would also be characterized by continuous efforts to clarify combined with things becoming disordered, by paradigmatic shifts rather than linear growth of knowledge.

This understanding, also presupposing a human capacity to learn by experience, seems easily lost in segmented and hierarchic maps of knowledge. These somehow seem to imply that knowledge will be developed by detached studies that absorb knowledge from accumulated stocks of scientific information.

4. Varied approaches to knowing

In the new modes of production suggested by Gibbons et al. (ibid), a concept of “transdisciplinarity” is prevalent as a privileged form of knowledge production. This form evolves from a strongly disciplinary (and segmented) context towards aiming at use, action or application in a broader sense. This mode implies more than interdisciplinarity, cutting across disciplines and drawing on a diverse array of knowledge resources and configuring them according to the problem at hand.

Nowotny et al. (2001), in their follow-up to the “New Production of Knowledge,” argue that we have entered an Age of Uncertainty, more likely to proliferate than to be eradicated. Looking back at what has brought us here, they regard the twentieth century as having been “*impregnated by too many – false – certainties, political blueprints, economic monopolies and the sometimes haughty aloofness of scientism...*” (p. 249).

They suggest that a variety of knowledge traditions is needed to constantly replenish the epistemological core. This is seen as antagonistic to the universalistic claims of Western science, which seeks to exclude the local contingent in order to produce universal or “invariant” results (ibid.) Bridges are to be built between disciplinary sciences and those articulating its contexts of application. The argument is also developed as a voice counter to the more rigid definitions of “evidence-based research.” Within the professional and academic fields of medicine and nursing it is argued that valid knowledge has to include social and environmental contexts, thus integrating research and clinical experience and also including patient perspectives (Sackett, D.L. et al. 1997, Rycroft Malow, J. et al. 2004).

The arguments point in the direction of the two concepts covered by the Act: *professional, artistic and experience-based knowledge* – the kind of knowledge developed while and by doing, by handling a practical situation within your professional domain. What “is” clinical experience and patient perspectives? One of the possible characteristics of first-line professional experience as a nurse or a teacher is its share of shared uniqueness. The patients,

the clients, the pupils or students are not only medical, social, economic or intellectual categories to be handled and exchanged. Clients tend not to be “it”, “they” or “those,” but “I,” “we” and “us.” To some extent we appear as members of categories when entering the system, but as members we are human, interpreting, reflecting and talking back. We formulate hypotheses according to what works and what does not, which outcomes are to our liking (and to the liking of others) and which are not. And we act accordingly – act on what might be phrased “practice-based evidence”. And we always do so in a local setting. Acting locally, which most professional practitioners do, is mainly “to live among men”, a basic human condition (Arendt 1958). We are by necessity inter-dependent. As humans we are to some extent unpredictable, notwithstanding our shared biological and social properties. Without some unpredictability to our living, we are not humans but automata, and concepts of choice, responsibility, ethics and learning would make no sense.

“Covering theories” from social or natural science, however statistically valid and usable, have their limits when applied on the professional micro-level, passing tests of practical validity in local contexts. To some extent the professional practitioner always has to deal with this unpredictability, to make sense of it – together with the client and with professional colleagues. The practitioner seeking excellence somehow has to explore the situations at hand, continuously building and re-building repertoires of approaches to inquiry and solutions and thus being involved in processes of knowledge development.

This relational perspective to knowing has a long standing, exemplified by Aristotelian concepts of knowledge (Eikeland 2007) to the pragmatic tradition after Dewey, exemplified by Schwab (1978), Schön (1983), Dreyfus and Dreyfus (1986), Lave & Wenger (1991), and Nielsen & Kvale (2003). Richard Sennett, also within the pragmatic tradition, in his book “The Craftsman” (2008), addresses the relation between nature and culture, experience as craftsmanship showing the continuum between the organic and the social put in action.

The basic argument of relational and multiple approaches to knowing seem valid for the development of all professional knowledge. More and more countries recognize the complexity of the higher education needs of professional people at work, i.e. professionals demonstrating excellence in practical work. Universities and university colleges look into new ways of connecting higher education and work in order to enhance reflective practice and to have empirical learning accredited to the knowledge base. Looking for ways of organizing academic development rooted in authentic, intellectual and practical challenges through which new practise is generated. (Boud and Tennant 2006).

Assessing quality – qualifying for excellence by numbers?

The Act states that the different knowledge bases put to use in education should be of excellence. This presupposes systems of assessment, criteria of comparison and certification. Through history the faculty of master-apprenticeship has always been at the core of assessing knowledge development. The inexperienced have been taken into the confidence of masters, and trained for excellence within crafts and arts as well as in sciences. In processes of training, as well as of ordainment for membership in guilds or professional hierarchies and groups, peer learning and peer review have been and are of importance. The traditions of master-apprenticeship and peer review cover qualifications related to a variety of knowledge bases and constantly developed assessment criteria, but generally not to a map of standardization.

The growth and massification of higher education institutions has been followed by (or spurred by) more formalized criteria of certification and assessment that lean towards standardized systems of teaching and learning. In Europe this tendency may be exemplified by the Bologna process as part of the EU Lisbon strategy. The overarching programme focuses on economic growth and workplace innovation to make the economy more competitive on the global scene. The Bologna process introduces a series of reforms to make European higher education more compatible and comparable, as well as more competitive and attractive. The systems of shared standards in higher education cover different levels of qualification from BA to PhD. The system is still in its making.

On all levels, incentive systems for the allocation of resources are tied to the efficiency of student throughput, to the production of ECTS, the number of doctorates, the number of publications in peer-reviewed journals etc. New, standardized and detailed procedures of grant application, of quality control and reporting on planning and use of time and money as well as formats of products, all contribute to making “knowledge production” more quantifiable and possibly more predictable.

In a human capital theory perspective the growth of PhDs is assumed to “fuel” a prosperous knowledge-driven economy. (Rizvi and Lingard 2006 as referred in Servage 2009).

The term “production” of knowledge seems quite apt: it indicates knowledge as a standard commodity to be produced and exchanged in a market, a fairly detailed and standardized map of knowledge related to the routes and contents of qualification.

An academic rationality increasingly based on and organized through standardized and quantified procedures of assessment and benchmarking may run the risk of exchanging

quality for quantity, human interactivity and collaborative innovation for disciplining and controlling behaviour according to a specific set of values. Eventually one may run the risk of distorting values and purposes with means.

“Quality” in fields of knowledge like the humanities and social sciences may rest on criteria of usefulness in practical and ethical terms, of consistency, coherence, transparency and even beauty; natural sciences probably add a criterion of replicability. Quality can hardly rest mainly with growth in numbers and/or speediness of task solution. The significance of works by Einstein, Pasteur, Beethoven, Munch or Pavarotti does not rest with number of works written, composed or painted or with the speed of an aria performance.

The safeguarding of quality always rests with peer review of some kind and with master-apprentice relations rather than frequencies schematically obtained. As the quest for growth by numbers and efficiency by throughput prevail, peer reviewers tend to be among species at risk. As the amount of work grows rapidly, the deadlines are shorter, the ordinary working conditions suffer the same characteristics of quantified assessment and shortcuts, and the decline of quality is unavoidable. Growth by numbers is similarly not compatible with sustainability and quality within the domain of higher education.

Different routes of qualification: An alternative path to academic qualification and career?

Besides the streamlined, standardized tracks of higher education qualification and academic career, signified by the traditional PhD, a couple of somewhat alternative paths are being walked: the professional doctorates. The start of this walk in 1980 in Australia was performed by professionals looking for education that was more relevant to their tasks of care, production and innovation than those offered by discipline-based higher education, and a wish to be part of more formalized competence development. In the last fifteen years there has been a strong and steady growth of professional doctorates focussing on professional areas of learning and practice, on practice-based and -related research internationally. (Scott et al. 2004).

An international special interest group for practice-focused doctoral research is being organized as an output of the International Conference on Professional Doctorates of November 2009. The group is addressing the further strengthening and formalization of trans-disciplinary practice-oriented research in higher education. In the terminology used, “practice” refers to both professional work undertaken in organizations outside the university and work undertaken within the academic environment to guide participants in developing capacities as researching professionals. Therefore knowledge interests also centre on the

pedagogy related to supervising doctoral candidates and on the practice-based research of the candidates themselves. One important point presented is through a variance of professional doctorates to engage critically with various ways of thinking about practice derived from philosophical discourses – not least in opening further debate on the ethics of the development of professional practice. There is a shared concern with the group to open debate and to consider the developments of practice in relation to issues of community cohesion and justice.⁴ It seems clear that the professional doctorate will have a significant role in future reforms to graduate education, and in the labour market expectations and experiences of those holding doctoral – level accreditations. (Servage 2009).

The formulations of the Norwegian Act, as I have presented them, seem well in accordance with the perspectives here drawn internationally towards transdisciplinarity and practice-/experience- based research. What is more, the national regulations subsumed by the Act for qualification and tenure in higher education define two alternative routes to an academic career: the ordinary route is scientific qualification by a PhD and positions of associate professor and further qualification to the position of professor. The starting point for this route is a Master's degree.

Alternatively there is a route by a qualification level, in Norwegian termed “førstelektor,” a position given the same name. The starting point of the route is a Master's degree and a position as assistant professor. In university colleges this position is often given to those with a combination of practical professional experience as well as a Master's degree. A further possibility of qualification to the position of “dosent” is given. The work qualifying for “førstelektor” should be approximately as extensive as a PhD, but not primarily a qualification by dissertation and peer-reviewed scientific articles. The qualifications would rather imply thorough and reflected professional and practical development work, institutional responsibility for organizational development and innovation, excellence in teaching and pedagogical innovation. To some extent it points in the direction of transdisciplinarity. As no direct parallel is given in English, the positions of “førstelektor” and “dosent” are officially translated as “associate professor” and “professor”. The regulations state that the

⁴ <http://www.ukcge.ac.uk/events/eventsarea/profdocsconference2009/pdc09.htm>

qualification of “førstelektor” and PhD are supposed to be on the same level – but with different perspectives. The regulation including “førstelektor” has been effective since 1995.⁵

It turns out that the formalities of the Norwegian system could in a simple way answer the international quest for formalizing the professional doctorate in the academic system. Internationally the professional doctorate is about to become a well-established degree awarded through higher education, but possibly with more uncertain judicial frameworks concerning positions within higher education.

In Norway the judicial framework concerning the level of qualification as well as positions within higher education is clear – but lacks an adequate degree. Associate professors and professors (both paths) qualify as “first-level qualification” according to rules of accreditation.

A committee appointed by the Norwegian National Council for Education in Health and Social Care (NRHS) gave its report with recommendation to career and qualification paths in academia in August 2009.⁶ The mandate and work of the committee in particular addressed relations between the two alternative paths for qualification, and relations to the international professional doctorate.

The context of the recommendations is the relationship between universities and university colleges. The institutions have different history as well as perspectives regarding teaching and the relationship to research and development. This has consequences for recruitment, and profiles of qualification are given priority.

The main perspectives of universities and scientific university colleges are of scientific achievements and the education of future scientists of excellence. The main perspectives of university colleges are the education of professional practitioners of excellence as well as research and development achievements related to the relevant professional fields.

University colleges recently given accreditation as universities may develop shared perspectives.

At universities, “first-level” staff amount to 41.9 %. The majority, 23.4%, have positions as professors, while 16.8% are associate professors. Research fellows, PhD fellowships, post-doctorates and researchers amount to 47.8%. Assistant professors are a minor group of 7.2%. This leaves less than 4% in the categories recruited along the alternative route – “førstelektor”

⁵ Regulation 14/1995, replaced by new official regulations of 1 April 2005, the qualification for and position as “dosent” by the regulations of 20 June 2007 – thus formalizing a full alternative path for an alternative academic career.

⁶ The NRHS is a council under the Norwegian Association of Higher Educational Institutions (UHR).

and “dosent.” The route of recruitment and qualification thus clearly tends towards scientific achievement.

At university colleges, the dominating category of staff is “assistant professors” – 46.2%. These are candidates for further qualification and career through the two alternatives. The “first-level staff” amount to 35.3%. The majority, 28.7%, are associate professors. Among these, 18.1% are PhDs and 10.6% “førstelektor”. The number of professor “dosent” is 6.5%⁷ (All figures derived from the committee report.)

As stated in the committee report, the alternative path so far has a short history. It is well placed on the formal map. This path has, however, consequently been omitted from national incentive systems regarding fellowships and remuneration. In a way it may be said to have developed in spite of political and formal back-up. Statistics indicate that the group of potential recruits to the path is considerable at university colleges.

The committee argues that so far the history of the alternative path has demonstrated the need for qualifications and career within the higher education system more closely related to reflected professional practice, to the focusing of education and teaching and to strengthening this path.

The possibility to strengthen and develop the alternative path may easily be lost. One way of potentially missing the opportunity may be to depend on a fairly dubious future flexibility of the traditional PhD so that in the future it may give room for what is today the alternative route. We do indeed find examples of flexibility regarding the empirical field and methods used, especially within art and design departments, but the general picture implies a pressure towards standardization and quantifiable efficiency concerning the PhD. As the alternative route seems more difficult to standardize and has lacked official practical backing, it is more likely to fade away. This is presented as one possible scenario by the committee.

Another obvious scenario also suggested is to keep the map the way it is today, with two alternative routes. If the one alternative is kept outside national incentive systems, this is also a risky business, as pointed out by the committee. It also pointed to the fact that the same label of “førstelektor” used both for the level of qualification and for a position seems inappropriate both nationally and internationally.

A third scenario keeps distinct routes giving separate labels, PhD representing one, and then sets of alternatives such as professional doctorate, educational doctorate etc. The Norwegian

⁷ The possibility of advancement to “dosent” has only existed for three years, and the numbers are uncertain. In the first year four were registered. During the following years the number has been multiplied by at least eight.

alternative route may fit into the alternatives. This would represent an international trend which has yet to find its place on the institutional maps.

A fourth scenario suggested by the committee may combine the strength of the Norwegian Act and Regulations with the international trend towards professional doctorates. As the two alternative routes in the current Norwegian system are supposed to be on PhD level, but with different perspectives, they might as well be given the same degree, but as a shared prefix. In other words, the prefix is followed by a definition of alternative routes such as PhD Science and PhD Professional on the maps of routes to qualification as well as career – both to be plotted on the same institutional map. The one draws a discipline- and science-based route to knowledge, while the other draws a professional- and experience-based (teaching included) route to knowledge. Criteria of documentation and assessment, peer learning and peer review should be different for the different knowledge bases implied by the routes.

Curricula and organizational maps would have to be revisited and recombined according to interchange and dialogue between representatives of different routes, implying the continuous development of pedagogical practices in response to contextual challenges and experience.

Comments in conclusion

Our research, the theories of our sciences, and our ways of knowing may somehow be seen as originating in practical experience and considerations given our biological and natural embedding.

Global challenges may call for some revival and upgrading of systematic practical experience and considerations in higher education, cutting across disciplines and drawing on a diverse array of knowledge resources and configuring them according to the problems at hand. Not at the expense of scientific endeavours proper, but in concert with it.

The Norwegian Act relating to knowledge bases for teaching in higher education provides room for such a revival. The upgrading is already implicit in the formulations of the law, as well as in regulations for academic qualification and career paths that imply alternative tracks of equal value. It has simply not been properly put to use. I have tried to argue that this alternative track complies with the international trends of designing professional doctorates, as well as with the challenges of contemporary society.

In my opinion, one advantage of this alternative route is that it to some extent seems to resist institutional as well as curricular standardization. This complies with the inclination towards the unpredictable that is always imbedded in our human condition and our local practices. In principle some space is left for trust in the human capacity of learning by experience.

Providing room for this resistance may well be vital in order to retain the distribution of flexibility and options for innovation necessary to sustain systems of continuous learning and survival on all levels.

References

- Arendt, H. (1958): *The Human Condition*. Chicago: University of Chicago Press.
- Bateson, G. (1972): *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution and Epistemology*. Chicago: University of Chicago Press.
- Bateson, G. (1979): *Mind and Nature. A Necessary Unity*. N.Y.: Bantam Books.
- Bateson, G and Bateson M.C. (1987): *Angels Fear*. London: Rider Book
- Ben-David and A.Zloczower (1968): *Fundamental research and the universities*. OECD.
- Bjørke, G. ed. (2009): Samarbeid på tvers av profesjonsgrenser. *HiO-rapport nr.1*
- Boud,D. and Tennant, M (2006): Putting doctoral education to work: Challenges to academic practises. *Higher Education Research and Development*. 25: 293-306.
- Brynhildsen,J. (1902): *Norsk-Dansk – Engelsk ordbok*. Kbh.: Gyldendal
- Committee appointed by the Norwegian National Council for Education in Health and Social Care (NRHS) 2008: *Veier til førstestilling*. NRHS.
- Eikeland, O. (2007): *The Ways of Aristotle – Aristotelian Phronêsis, Aristotelian Philosophy of Dialogue, and Action Research*. Bern: Peter Lang
- Dreyfus, H. and Dreyfus, S. (1986): *Mind over Machine – The Power of Human Intuition and Expertise in the Era of the Computer*. Oxford: Basil Blackwell Ltd.
- Gibbons, M. et al. (1994): *The New Production of Knowledge.: The Dynamics of Science and Research in Contemporary Society*. London: Sage.
- Foucault, M. (1970): *The Order of Things*. London: Pantheon Books
- Gibson, J.J. (1980): *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin.
- Guttu, T (2003): *Norsk Ordbok*. Oslo: Kunnskapsforlaget.
- Haugen,E. (65): *Norsk – Engelsk ordbok*. Oslo: Universitetsforlaget.
- Herbst, P. (1973): Strukturering av kunnskap og utforming av utdanningsinstitusjoner. In *Nordisk Forum nr. 3*.
- Herbst, P. (1975): *Sociotechnical Design*. London: Tavistock.
- <http://www.ukcge.ac.uk/events/eventsarea/profdocsconference2009/pdc09.htm>
- Nowotny, H., Scott P. and Gibbons M. (2001): *Re- Thinking Science*. Cambridge: Polity Press, Blackwell Publishers.

Lave, J. & Wenger, E. (1991): *Situated Learning—Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Moser, E. and Moser, M.-B. (2007): Scholarpedia 2(7): 3394 (2007)

Nielsen, K. & Kvale, S. (2003): *Praktikkens læringslandskab – at lære gennem arbejde*. København: Akademisk Forlag.

Knudsen, T. og Sommerfelt, A. (1937 - 1957): *Norsk Riksmålsordbok*. Oslo: Aschehoug.

Rycroft, Malow, J. et al. (2004): What counts as evidence in evidence based practice? *Journal of Advanced Nursing*, 47(1), 81-90.

Sackett, D.L. et al. (1997): *Evidence Based Medicine- How to Practise and Teach EBM*. N.Y.: Churchill Livingstone.

Schön, D. (1983): *The Reflective Practitioner*. N.Y.: Basic Books

Schwab, J. (1978): *Science, Curriculum and Liberal Education*. Chicago and London: University of Chicago Press.

Scott, D.; Brown, A.; Lunt, I. and Thorne, L. (2004): *Professional doctorates: Integrating professional and academic knowledge*. Maidenhead: Open University Press and McGraw-Hill Education.

Sennett, R. (2008): *The Craftsman*. London: Penguin Books.

Servage, L. (2009): Alternative and professional doctoral programs: what is driving the demand? *Studies in Higher Education*, 34:7, 765-779.

UHR: "Termbase for Norwegian higher institutions".

