



## Report from EDUPROF expert meeting on the knowledge triangle, Copenhagen 1-3 December 2009

### Introduction

Within the framework of the EDUPROF project undertaken by the UAS network, an expert meeting on the knowledge triangle was held from 1-3 December 2009 in Copenhagen.

The meeting was attended by 24 experts from the UAS sector (institutions, rectors' conferences, ministry, social partners) in eight different European countries: Portugal, France, Denmark, Switzerland, Lithuania, Finland, Netherlands and Estonia. The experts had the following profiles: Director of R&D, head of development/academic affairs, professor, consultant, president, vice-rector, deputy director, principal lecturer, dean, senior advisor.

Participants were brought together to discuss the knowledge triangle and the role of UAS in this respect, exchange experiences, meet with peers, get inspiration and learn from each other. Presentations by sector and external experts qualified the discussions.

### The theme of the knowledge triangle and the role of universities of applied sciences in the production of knowledge

UAS have a strong potential to become regional and national knowledge institutions within the field of professionally oriented higher education and the field of applied research. It is important to discuss at a strategic level how UAS deal with knowledge and put themselves at the core of the triangle between education, professional practice and research. To become even more competitive knowledge institutions, UAS must work intensely and professionally with knowledge management and strategies. This requires a constant dialogue and collaboration with users and partners.

Discussions focused on three dimensions considered pivotal for UAS to achieve the ambition of being excellent in creating and managing knowledge in and on professionally oriented higher education:

1. The concept of applied research: Discussions on what we understand by the notion of applied research, how do we define it?
2. The internal dimension / knowledge strategies and policies: How do we work with knowledge strategies and policies at our UAS?
3. The external dimension / knowledge strategies and user needs: How do we collaborate with users and other actors, how do we fulfil their needs?

### Overall conclusions, recommendations and reflections

#### 1. The concept of applied research

There is an obvious need for a common definition of and terminology for applied research and the role of UAS in creating knowledge through applied research. It is necessary in order to gain acceptance of results and processes qualified by UAS through applied research. The challenge lies within the individual UAS and outside UAS, both among users and professions as well as among universities and other research institutes.

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*Reflections and challenges:*

Communication of definition and understanding of applied research, how and why it is carried out requires

- A dissemination system (being developed in most countries)
- Adequate and common terminology
- That results are demonstrated and applied by users
- Adequate internationally based quality development of applied research

**2. The internal dimension / knowledge strategies and policies**

Institutional strategies should consider how applied research strengthens the profile of the UAS in terms of educational and professional development. What is the role of the UAS? A systematic approach should be taken to highlight activities and disseminate results of applied research for internal and external benefit for the purpose of profiling UAS as institutions both *developing* and *producing* knowledge (not merely mediating knowledge between the traditional research sector and the practice field).

A SWOT analysis at institutional and sector level is a relevant tool to raise awareness of the role of UAS as knowledge institutions and highlight the perspectives for carrying out applied research in collaboration with other actors at regional, national and educational level.

*Reflections and challenges:*

HR; Teachers' competencies

- Challenge to increase teachers' research competencies
- Future recruitment: research competencies and language skills

Involving students in R&D activities

- Through BA thesis and MA thesis and training period/internships

Organisation

- Realising applied research as a new research practice implying e.g. the generation of new research ideas in collaboration with external partners and creating clusters as a new way of organising projects and make them develop into new ones
- Master groups/clusters based on a theme with participants from the R&D area
- Priority areas for R&D important
- Clusters important with the purpose of knowledge circulation
- Principal lecturer leading a knowledge circle
- Coordinators both at central and faculty level
- Forum for young researchers
- Demands that projects are related to the UAS' strategy and priority areas

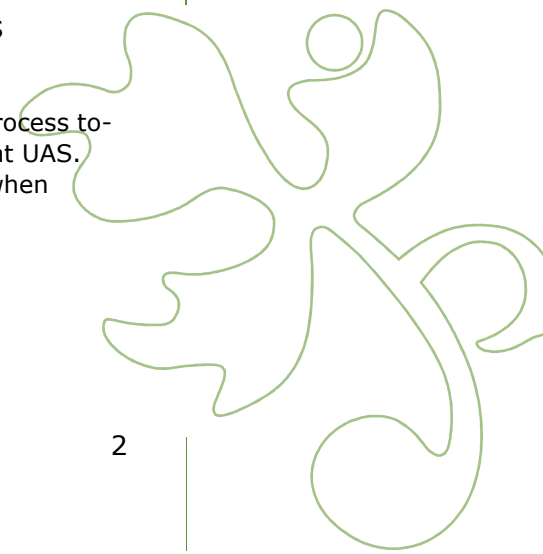
Aspect of profiling the UAS

- Branding the UAS
- Communicating the quality of the knowledge produced within the UAS

**3. The external dimension / knowledge strategies and user needs**

Strategic and concrete partnerships should be enhanced to support the process towards a common understanding of and terminology for applied research at UAS.

When dealing with development in professions, caution should be taken when








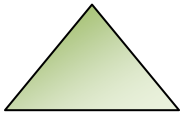
waves of fashion influence the professions. When setting ideals, it is important to mind the specific conditions of the profession, set by history, norms and values.

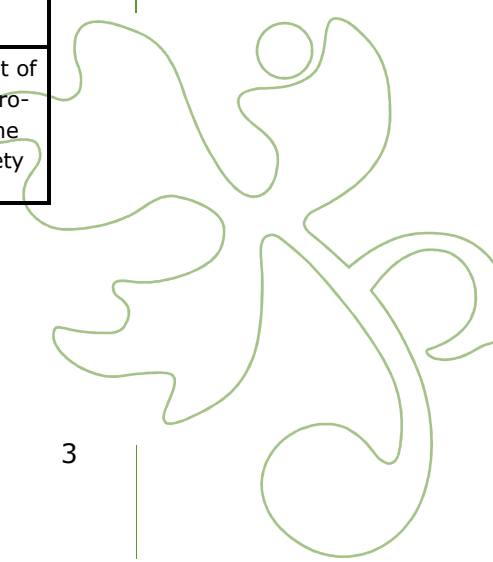
*Reflections and challenges:*

- Transparency > mission > dilemma priorities and regional accommodation > PR
- Rational receptivity > selectiveness > mission
- Demand driven > clear about goals and choices, look beyond demand driven questions, create future demand
- Speak the same language, one office streamlining procedures
- Flexibility > quality and speed > fast track procedures > minor programmes, master programmes
- Research groups and applied research as methodology

**How do we work with the knowledge triangle?**

The knowledge triangle encompasses many dimensions and offers many perspectives. To make work with the dimensions and perspectives more operational, it is suggested that the knowledge triangle be dealt with at different levels: Internally, externally, strategically and internationally. A horizontal approach should be taken at the same time to link the different levels.

| <b>Dimensions</b><br>(4 dimensions of the knowledge triangle)  | <b>Purpose</b><br>(from UAS perspective)   | <b>Task</b>  | <b>Results/Impact</b>   |
|--|--|--|---|
| Internal<br>      | Transformation and circulation of knowledge<br><i>(Presentation by Katja Brøgger Jensen + list of strengths and weaknesses)</i>  | Management, Organizing R&D work, HRD, student involving R&D.....             | Research based education<br>Entrepreneurship  |
| External<br>      | Knowledge production/Knowledge Triangle<br><i>(Presentation by Liam Gallagher and by Jan Dehn + list of opportunities and threats)</i>   | Partnerships, strategic alliances developing, Living Labs/learning platforms | Knowledge based innovation in business/industry and public sector - not only as an idea but in an operational way |
| Strategy<br>      | UAS profile<br>National strategy<br>Positioning of UAS in the university landscape<br><i>(Presentation by Christian Tangkjaer + Stefan Hermann + Work to come on SWOT analysis for the sector)</i> | Sector policy  | Acknowledgement = Funding<br>= setting the agenda for the sector  |
| International<br> | Transparency, Quality assurance, Life long learning....  | European UAS policy<br><br>What are pan-European issues?                     | Acknowledgement of the knowledge producing role in the Knowledge society  |





During the meeting, the experts made a SWOT analysis (see p. 7) in relation to UAS. Discussions made it clear that different countries have different priorities for UAS in terms of the knowledge triangle, both at institutional and sector level. In any case, the SWOT analysis was considered a relevant tool for further work, also to further elaborate the European perspective within the UAS network.

### **The way forward**

The strategic dimension of UAS in the knowledge triangle:

- The main strategic goal is to get a proper funding of research activities in the UAS sector and ensure that all lecturers are involved in research activities in at least 20% of the activities
- Expectations to education and the UAS are in some countries not sufficient in respect of our possible added value especially in the fields of SMEs. Therefore, it is important to make partnerships and through common projects establish research in the field of the knowledge triangle
- "Just do it" – we cannot and must not be in a passive position, but we must take action and be more offensive towards political goals and economic funding
- Make innovation vouchers available to SMEs to pay UAS to conduct research project of applied science on professional questions

Recommendations for themes to be discussed to further clarify the role and functioning of UAS in the knowledge triangle:

- How to really link basic education with research
- Can UAS really do it?
- The link between applied research and the study process: How can it be linked and how are students involved?
- Are education programmes at UAS too far away from practice?
- Do the programmes have the right balance between theory and practice?
- How to tackle the lifelong learning perspective? Are UAS prepared for this?

### **Highlights and conclusions from each theme**

The above conclusions and recommendations are based on input from the themes that were discussed during the meeting. In the following, highlights from each theme are presented.

#### Theme 1: The concept of applied research

To qualify discussions on the concept of applied research, the theme was split into two sessions:

1. A concrete example of how the knowledge triangle works: Reporting radiographer education programme
2. Theoretical input to discussions on the definition and understanding of applied research

#### A concrete example: Presentation on reporting radiographer education programme

The radiographer education programme illustrates how the knowledge triangle works for the benefit of educational and professional development. Liam Gallagher from Bispebjerg Hospital (representing clinical practice), Lene Gerberg and Rikke Vinterberg from Metropolitan University College (representing education) presented strategies and education undertaken to qualify trained radiographers to perform tasks for which they are not trained in basic education. The reason for initiating the education programme was to meet with demands for new skills as a consequence



of role extension, job sliding and prospects of staff shortages in the radiography profession.

In this example, the knowledge triangle works mainly in the relation between education and practice. The involvement of research is limited as no researcher is directly involved, however, research is done by the professional in practice (professional examination practice). Focus is on how professional practice and education work together to develop the profession. This is what is understood as applied research, however, this form of knowledge production still needs to be broadly acknowledged as such. It is a common statement that without the involvement of the profession, education in practice has no go.

The relation between education and practice in the knowledge triangle illustrates that:

- Competencies and skills must be formulated and demonstrated in order to get acceptance
- New professional knowledge is created. The programme lowers professional boundaries at the work place
- Collaboration between practice and education gives evidence to the production of knowledge in the professions (applied research). Common terminology and formulation of skills' needs brings about development of the profession
- There is a need for adequate terminology for applied research
- The involvement of professional practice addresses educational issues (skills, link between theory and practice)
- The education programme should be integrated into everyday practice and build on the student's own cases and experiences. It should be flexible and structured in a way that encourages reflection by the student, thus taking responsibility for own learning. Further, it should be based on ECTS points to be part of the formal higher education system (a professional master's degree)

*Theoretical input to discussions on the definition and understanding of the concept of applied research*

Two presentations were given by Danish experts: Katja Brøgger Jensen from University College UCC and Johny Lauritsen from University College Zealand.

Suggested statements as to the understanding of applied research:

- Applied research is a new way of practice – a new practice for knowledge development not only implying new research designs but also new ways of generating ideas and realise the projects in a collaborative way. We need to give it adequate terminology and demonstrate knowledge produced through applied research. There is a need for collaboration, development of competencies and strategies as well as visible and applicable results to obtain acceptance by professionals
- Applied research is about research on 'know how' dealt with at UAS. The 'know why' is dealt with at traditional universities. Basic research cannot tell us what to do because this depends on the ability to judge and the contextual act of the professional. UAS should focus on fostering this ability – what works in real life and in practice and what the professional considers as meaningful in every day professional practice
- Applied research is about the generation of ideas in a knowledge cycle. When does the need for knowledge appear? How is it articulated? By whom? Who can solve the problem? The acceptance of applied research requires common termi-



nology, a systematic approach to the definition and articulation of the need for knowledge as well as the involvement of relevant actors. The purpose of applied research is to offer solutions to problems (solve them) and to put forward critical questions to professional approaches (freedom of research, reflection)

- During a project's lifetime, results must be presented and apply to basic education, users, researchers, etc. Communication, documentation and standards for applied research must be maintained and further developed
- A way of organising applied research is through clusters where different actors collaborate and generate knowledge in community. It is a challenge to involve teachers, professors and users and to change their mindset towards applied research. However, involving relevant actors from the knowledge triangle gives legitimacy to applied research and its results. In some countries, UAS are obliged to conduct applied research, in other countries not. However, all countries conduct applied research because it is the way to link professional practice and education and to develop professions.
- Sustainable applied research should be based on freedom of picking subject and on basic funding. In some countries, earmarked funds are available, in others not. Rules differ as to how much external funding the project should come up with. Differences also exist as to how much money that can/should be raised in the non-profit/for profit sector as co-financing
- There should be more to applied research than required research. Applied research should obviously implicate a user perspective but also consider the need to challenge practice

#### Conclusions on theme 1

- UAS need to clarify what they can offer and do in terms of applied research
  - Adequate and common terminology that distinguishes UAS from traditional universities
  - Development of professional practice and new professional knowledge
  - Spin-offs for society
- UAS need clear strategies on applied research
  - Build framework of prioritised research themes
  - Offer consultancy tasks and societal tasks (close to or separate from education)
- Funding
  - There is a need for earmarked financial resources
  - Users and customers should finance part of the activities
  - It should be clarified how funding affects research. Academic freedom must be upheld, regardless of whether activities are contractually funded by third parties

#### Theme 2: The internal dimension / Knowledge strategies and policies

To qualify discussions on this theme, Christian Tangkjaer, Ph.D. at CBS – Copenhagen Business School, gave an outsider's perspective on the internal challenge at UAS.

There is no given formula for formulating strategies for UAS in terms of the knowledge triangle. There are different ways to organise knowledge and to integrate it into the mission and vision of the UAS. Right now, the mission and vision of UAS is to educate people. Universities' mission and vision are first and foremost to produce



knowledge through research. This is a fundamental difference and affects the way UAS and staff perceive themselves. Knowledge produces normative and powerful positions and gives structure to society. However, knowledge can be too theoretical and thus not applicable in practice. Therefore, practitioners should contribute to the production of knowledge.

It is a huge challenge to disseminate knowledge. Reports show that only 2 per cent of knowledge generated at universities is circulated to business. There are several possible reasons for this:

- Universities are not able to transfer of knowledge into business or public sector
- Business or public sector are not able to receive scientific knowledge
- Neither actor are good at dealing with the transfer of knowledge

There are several arguments that grasp the discourse of the knowledge triangle: Political, economic, scientific, ethical and humanistic arguments. And there are many types of knowledge that must be conceptualised in order to be organised and dealt with: Know what, know how and know why. Structures could be networks (local or thematic), alliances to create positions. Identity and learning follow to this.

Conclusions on theme 2

The outset for being able to work strategically is that UAS are aware of their strengths and weaknesses, threats and opportunities. How do we perceive ourselves and the environment in which we operate? The SWOT-analysis made by the experts based on suggestions from Christian Tangkjaer represents a tool for each UAS, each national UAS sector and the European UAS sector s to progress with strategic and political work to improve the general platform of UAS in higher education:

|   |  |   |
|---|--|---|
| <p><b>SWOT-analysis for UAS in the UAS-NET - in progress</b></p>  | <p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• UAS have a unique position as educational organisations with a strong platform of building alliances with business and public sector organisations (our traditional partners)</li> <li>• The Knowledge Triangle/UAS has become positioned on the political agenda in governments and the European Commission (politics and economics)</li> <li>• UAS can improve the circulation of usable knowledge from 2 per cent</li> </ul> | <p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Universities have a strong historical position in the organisational field of researchbased education and knowledge production - do universities need UAS's as much as UAS need them (arrogance and ignorance)?</li> <li>• Financial and funding threats and the political expectations that UAS actually will create success more quickly than is possible</li> <li>• UAS are facing less autonomy and less trust to their organisations and more control mechanisms from government</li> </ul> |
| <p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Focus and experience in professional education</li> <li>• UAS have implemented a new structure of organising the activities that has created "open spaces" and process for development (could create a defensive attitude) – Living lab approach!</li> <li>• UAS are regionalised in a stronger sense than the universities</li> </ul> | <p><b>How do UAS use their strengths in order to gain from the opportunities?</b></p>  | <p><b>How do UAS use their strengths in order to avoid the threats?</b></p>   |



|  |   |  |
|--|---|--|
| <p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• UAS are under construction using resources to re-construct own identity and looking into oneself (while others may be looking at each other) (both an internal and external character/dialectical)</li> <li>• The quality of the core product of the UAS (study programs), which of course also is related to knowledge strategy and vice versa, is it at the right level?</li> <li>• Do UAS have a strong international platform for the activities?</li> </ul> | <p><b>How can UAS improve their weaknesses in order to gain from the opportunities?</b></p> | <p><b>How can UAS improve their weaknesses in order avoid the threats?</b></p> |
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Theme 3: The external dimension / Knowledge strategies and user needs

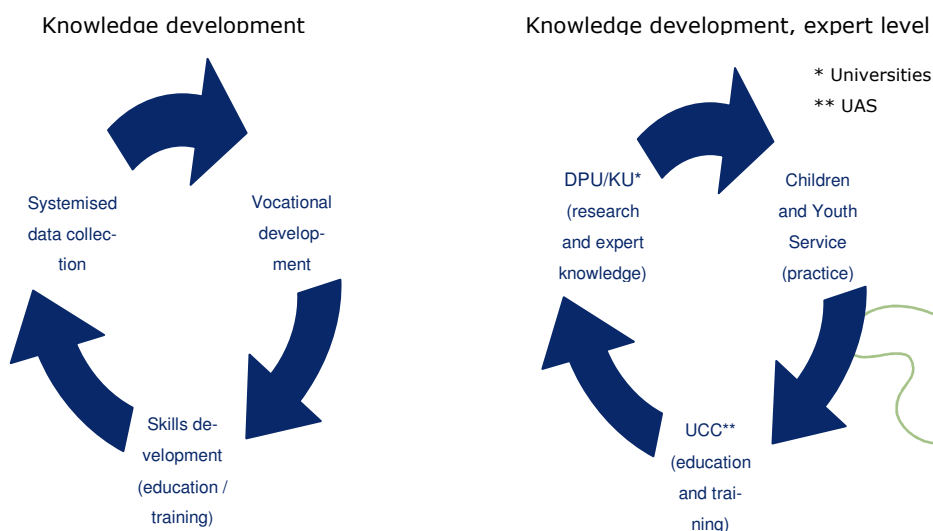
Jan Dehn, Head of Dept. of Education and Youth at the local government of Copenhagen, presented the user's perspective on UAS and the knowledge triangle. Users play an important part in the knowledge triangle and must therefore assume an active role in the production and structuring of knowledge. Knowledge from professional practice should be directly linked to research and development and find implementation in education programmes. The knowledge flow needs to be dealt with, in practice and strategically.

The major challenge for professionals when they meet practice as newly educated is to learn and adapt to the context and culture at the work place. New knowledge brought into practice by the new professionals is important to maintain practice and to motivate staff to work in the profession.

Knowledge strategies among users take three dimensions:

1. Development of the profession: Norms and values
2. Skills development: Education strategies and organisational structures
3. Systematic evaluation, data collection, expert knowledge: Strategic work raises quality of services

The knowledge triangle from the point of view of the user (*the arrows go both ways*):





### Conclusions on theme 3

The institutional context is the strategic partnership between the actors. It creates synergies at work, gives possibilities for BA projects, solves real time problems and the training of professionals is shared. This allows for focusing on specific areas of development, cases of cross-disciplinary matters and also gives visibility to the user's role (in this case the municipality) in creating expert knowledge. R&D activities at universities are qualified by strategic partnerships.

### A mirror: The Danish perspective on applied research and its European dimension

Stefan Hermann, rector of Metropolitan University College, gave the Danish perspective on applied research and its European dimension with focus on the role of UAS in the knowledge triangle, structure and management, development and research, funding, reforms in education, collaboration with users and other actors.

Society needs strong individuals, institutions and professions. The three are prerequisites for each other. However, professions reach for monopoly in the sense that e.g. only a teacher trained at a UAS is allowed to teach in primary school. Is this just? Is it a matter of identity?

Professions are under pressure from below and above (sandwich). Individualisation and globalisation put pressure on professions with regard to the need for competencies, demands and requests. Therefore, professions must strive for ideals to create the basis for their profession and sector.

Professions should avoid waves of fashion. There must be room for reflection, and waves of fashion must not substitute reflection. Focus should therefore be on reflection in practice to develop and renew the profession. It is not a matter of public management.

Professions create strong collective norms that regulate behaviour. It is a more powerful instrument than economic instruments. Collective norms are created by practice and applied science. They are not founded in science.

The ideal is that professions do not do just what they are supposed to do but create added value through reflection. This is done through applied research which renews, not reproduces, professional practice. Applied research is suited for learning, not suited for publication.

The European initiatives in the form of the European Qualification Framework (EQF) and the Bologna process create challenges for applied research. The EQF requires a definition of competencies, qualifications and skills. How do we understand these concepts? The Bologna process is the main frame where academics and research are intertwined. This makes it difficult for UAS not to strive for research but it is too simple to consider circulation of knowledge in a structure because the structure is just a means and it normally takes the form of academics. It is not applicable for professions based on applied research. Applied research is much more complicated than conceptualised by politicians. It is a matter of using a number of tools and to choose from a number of methods.

Partnerships with equality between the parties are important, also to grasp development in multidisciplinary professions that are founded in a deeply rooted historic development.

