Challenges and Steps in prospective VET Research and beyond

Focus: Professional-Scientific Education (PSE)

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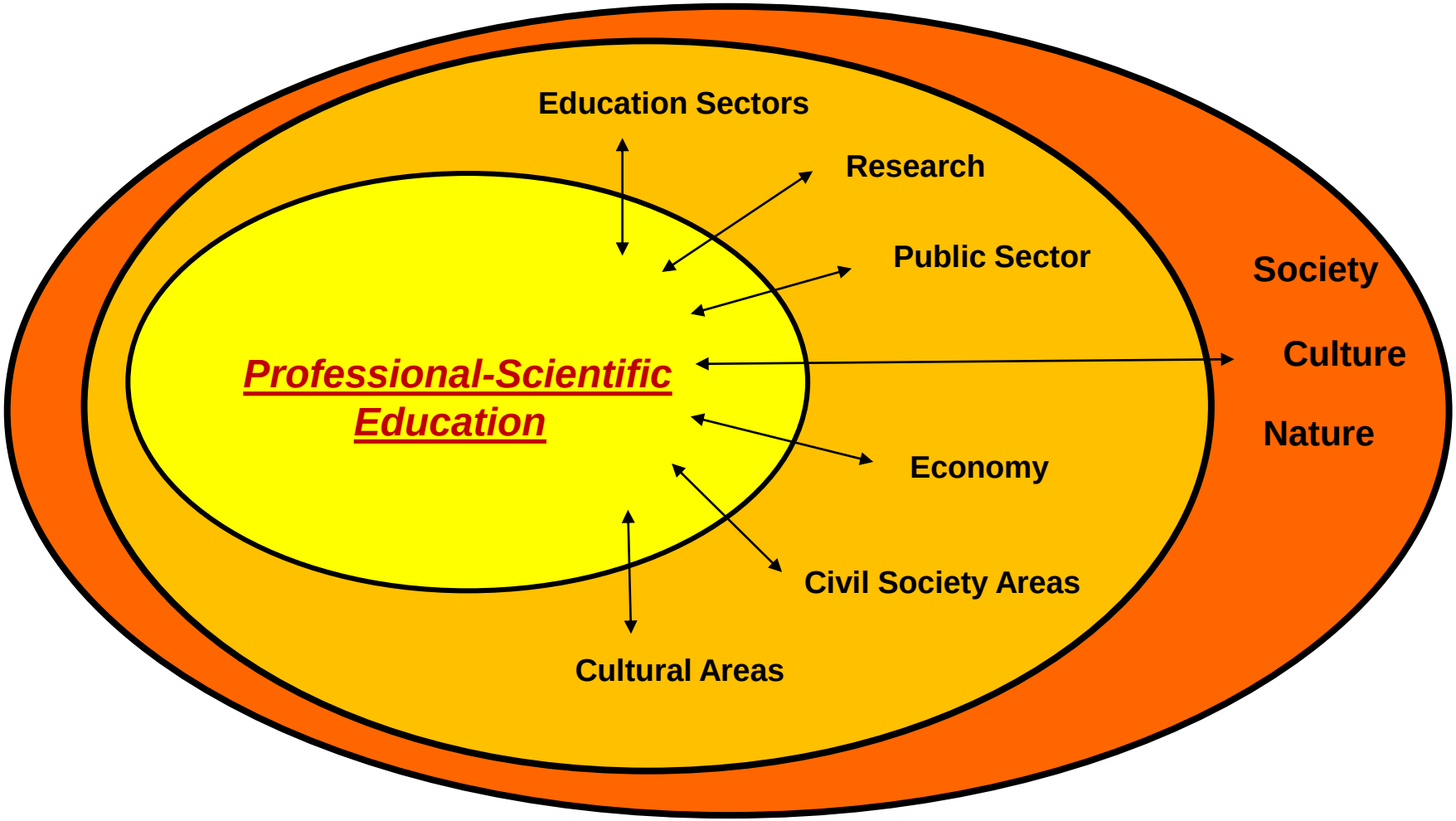
Contribution to final Panel

European VET research – What is needed? Where to go?

PSE – Dimensions and Perspectives



PSE relevant prospective VET Research Challenges and steps

10. PSE - Beyond established systemic and conceptual patterns

9. PSE Learning for Socially Responsible Action

8. Integrated Research and Project Learning

7. Research-oriented curriculum development

6. Correlations of Theory and Practice - Education in Context

5. Different types of Knowledge - a Professionalisation Dilemma

4. Relationship scientific Education and Competence

3. Specialised or Generalised Education?

2. Polyvalent Education in the medium of Science and Profession

1. Correlation Education, Occupation and Society – revisited

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- **Scientific requirements of sustainability**: utilitarian market orientation **vs**. comprehensive demands in terms of societal, ecological, economic and scientific requirements

- **Matching** between „skills supply“ and „skills demand“: a **myth and counterproductive** as a norm. Required equilibrium would be constantly lost in constant change and would only create flexibility problems.

- **Employability:** not only adaptive skills but also **adoptive abilities** concerning
  - employment according to selfselected criteria
  - transformative learning for participating actively in shaping or changing work-related and other social processes and in addition
  - Civic abilities to engage in all society processes (incl. work !)

2. Polyvalent Education in the medium of Science and Profession

- The **blurring relation** between education and professional or social practice arises, in essence, from **the polyvalence of the scientific nature of education** itself, which is relevant for both academic education and non-academic education.

- The ongoing challenge for VET: How can this be **shaped appropriately mediated by science in programmes and qualifications**, using ways of knowing developed in subject concepts, scientific theories and methods in specific occupational fields and requirements and which are connective to other occupational contexts respectively further education and training respectively academic eduation?

- How can the **use of scientific competences in occupational activities** beyond academic institutions, e.g. in industrial research as well as in society as a whole be embedded in VET programmes ?

3. Specialised or Generalised Education?

… Not contradictory but complementary e.g. via key competences:

Both academic education and vocational education and training focus on key competences, because of their subject-independent qualities guarantee the required flexibility concerning occupation requirements.

The challenge remains

- how to cope with and to shape complex factual or technical requirements ?
- which competences arise from education through science itself ?
- how can key competences combined with subject and occupation field specific competences facilitate to shape both work requirements as well as the connectivity to other occupations on the same and different levels and to further education including academic education?

4. Relationship scientific Education and Competence

- **Education through science** refers to a transformation of the world in the medium of science through enculturation into a scientific culture as well as through participation and appropriation of theories and methods, patterns of cognition and action in work.

- The **concept of PSE** could now be suitable for establishing **connectivity between the concepts of education and competence**. This only succeeds via the theoretical and methodological constitution of knowledge, which is the basis of education through science.

- **Education implies the ability to act** arisen both from the acquisition of theoretical and methodological knowledge or skills and its embedding in a process of self-education. Consequently education research will have to deal with **knowledge and skills, their correlation via a comprehensive understanding of competence** and not via an isolated focus on „skills“.

5. Different types of Knowledge - a Professionalisation Dilemma

- There are structural differences between knowledge and action in the context of science and professional or social practice. The **structural differences** have to be discussed in the **context of learning and professional theory** – with serious consequences for the **relation between education and professional action** in general and the teaching conceptualisation of a PSE in particular.

- This can be achieved on the basis of a correlative theoretical and methodological interpretation of knowledge accompanied by self-education and an orientation towards values. A mere target focus on skills to be acquired and utilised is conceptually short-sighted and also has a counterproductive effect in the respective areas of application, wherever these are located.

6. Correlations of Theory and Practice - Education in Context

- Knowledge is generated as scientific when it is produced or examined according to specific rules and is ordered in a disciplinary or interdisciplinary universe of theoretical and methodological knowledge. As a central key competence of PSE when transferring between different contexts of action it is necessary to decontextualise knowledge from its context of origin and recontextualise it in new situations of action.

- The reflection experience-based knowledge in action or reflection on action can be interpreted as modes of shaping their actions via recontextualisation or decontextualisation of intradisciplinary or interdisciplinary generated scientific knowledge. **This requires an extended comprehension of work** and consequently **of workbased learning** even **beyond employment contexts** including appropriate research approaches.

- This comprehensive scope of education can adequately take into account the dynamics of generating scientific knowledge with its implications for the theory / practice relation and its responsibility towards society as a whole.

7. Research-oriented curriculum development

- PSE takes the **correlation between theory and practice as the starting point for curriculum development**. This requires on the one hand embedding scientifically generated knowledge in a reflection of its contexts of origin, justification and utilisation and, on the other hand, the creation of learning conditions for the formation of transfer competences. (e.g. for the decontextualisation and recontextualisation of scientific knowledge)

- Contexts of situated learning suggest that **cooperating groups of actors** should be integrated into the curricula design process. The more intensively this is done, the more it should be possible to integrate the correlation between theory and practice into education programmes. Furthermore actors in the **communities of practice**, who are able to participate in the **development of transfer competences** can also be involved in the scientific decontextualisation and recontextualisation of knowledge.

8. Integrated Research and Project Learning

- Research-based and project-oriented learning can regarded as appropriate teaching concepts for combining scientific and professional education and which are constitutive for PSE.
- Its results have to be embedded (in VET via de- and re-contextualisation) in intradisciplinary and interdisciplinary knowledge structures, and to be disseminated exclusively according to scientific criteria without restrictions.

9. Professional-Scientific Learning for Socially Responsible Action

The *Key Competences for Lifelong Learning* in the European Union (2006) shall **anchor civic and social empowerment** in terms of concepts of democracy, justice, equality, citizenship, and civil rights, to be taken into account in all areas of society, including employment contexts.

- On the basis of the acquisition of judgemental maturity, **learning for social responsibility to act** could be understood as **a constitutive component of PSE** which can become effective on the basis of transformative learning in all areas of social practice, including employment environments.

- In this sense **PSE connects** to socioeconomic, ecological, cultural and political transformation processes, and forms learning and action contexts for a knowledge production and application oriented towards the common good.

10. PSE - beyond established systemic & conceptual patterns …

- The system dimension: PSE requires R&D across the education sectors but does not have to substitute them. In VET this requires to strengthen school based (half time or full time schemes) and college based programmes in terms of the scientific conceptual linkages towards Academia concerning subjects and disciplines.

- PSE requires a conceptually integrative, polyvalent and connectable design of education programmes based on a comprehensive understanding of competence. The aim is to enable to scientifically analyze and assess problems in order to cope with as well as to shape requirements and processes in specific societal contexts.

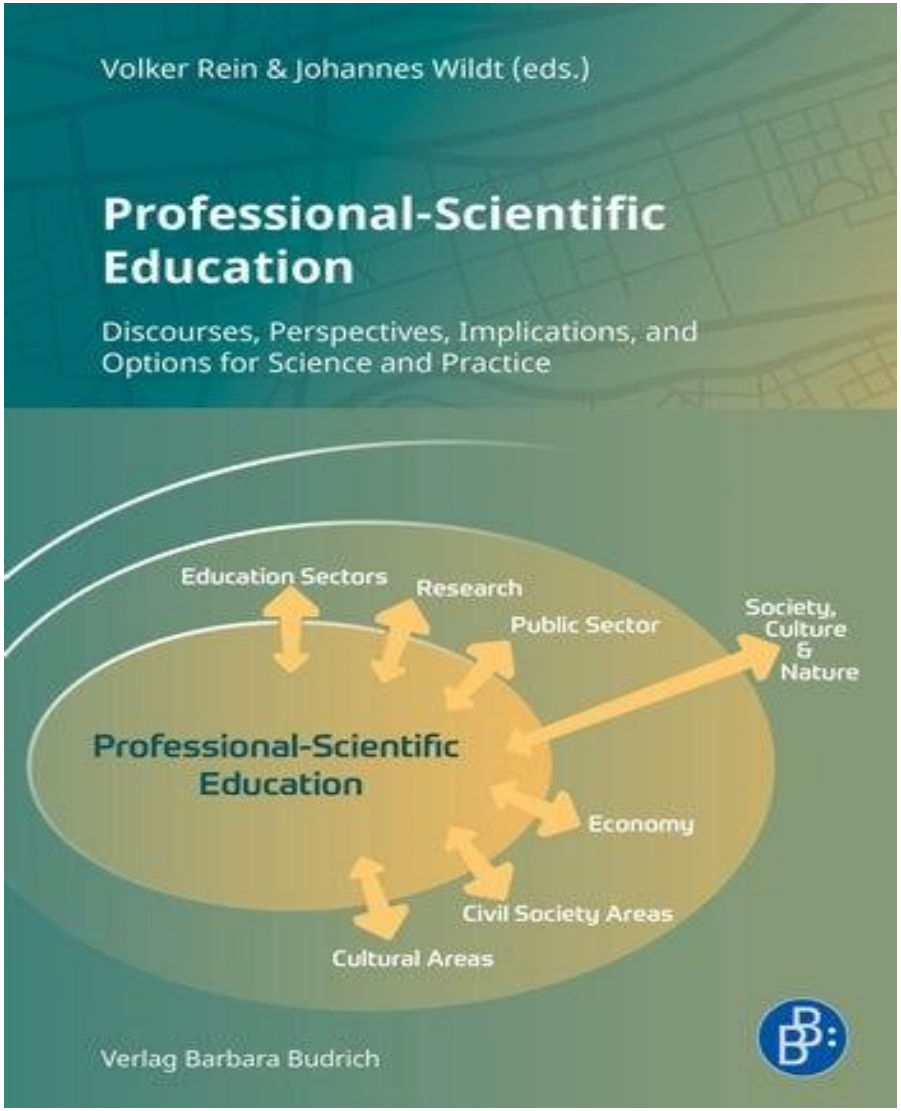
- These PSE criteria are not per se given with various forms of cooperative education programmes in vocational or academic programmes which do not combine theoretical learning with practical learning in integrated curricular and didactic scientific ways as described above but not regarded as per se „equivalent“.

10. … PSE beyond established patterns

- The upcoming necessary social, economic, ecological and cultural transformations require more intensive discussions than before concerning the **perspective and the condition how education and professions can be integrated in the medium of science**. The ongoing education controversies move between utilitarian-economic and technological perspectives and a PSE that focuses on a comprehensive social responsibility from a common good perspective.

- The **task of science in education** is to contribute its knowledge potential to this process and to accompany or advise the process in a theoretically and empirically reflected way, **impulses for academic education** as well as for **general and vocational education**. This should be interrelated with the ongoing scientification trend in all societal areas including business areas !

- As a condition for success, this task requires not only professional expertise, but also interdisciplinary, transdisciplinary and systemic cooperation in education (**i.e. no tribalism but winwin perspective**!), which can also build on an **understanding of science by the actors in practice and an understanding of practice by the actors in science**.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