

Airborne Wind Energy in Teacher Education

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Outline

- context vocational teacher education (VET teachers)
- concept and wiki *kite & tech*
- the VET perspective:
 - technical analysis
 - target group analysis
 - didactic design
- resumé and outlook

Münster University of Applied Sciences

Facts	
Students	11,854
Faculties	12
Interdisciplinary institutions	2
Research institutes	8
Degree programmes	77
Third-party funding (preliminary)	€ 14.6 million

As of 2013

Staff	
Professors	257
Endowed chairs	1
Honorary professorships	5
Lecturers with special duties	47
Employees	635
Apprentices	48

As of 2013

<https://en.fh-muenster.de/index.php>

Institute of Teacher Training for Vocational Education

Areas of work

- Conceptual design, organisation and evaluation of vocational teacher training programmes in cooperation with the University of Münster
- Study courses in Vocational Didactics and Vocational Education
- Research & Development in Vocational and Teacher Education

Cooperative study programme Teacher Training for Vocational Schools:

Vocational Subjects

Civil Engineering
Electrical Engineering
Information Engineering
Nutrition & Home Economics
Design
Mechanical Engineering
Design Technology
Health/Nursing

Educational Science

Academic Subjects

Sports
Religion (RC/ Prot./ Islam.)
German
English
Spanish
French
Biology
Economics/Politics
Mathematics
Physics
Chemistry

Crossing and bridging study subjects

R&D-Framework: Technology & Outdoor Education

cross-curricular approach:

- experience in outdoor sports & education
- professional curriculum issues
- interactive media

<https://en.fh-muenster.de/ibl/projekte/erlebnispaedagogik.php>

Project and wiki: *kite & tech*

Kites and AWE

- highly demanding natural sport
- new medium of OE
- relates to technical and social knowledge

wiki as a medium for

- publishing and knowledge exchange
- networking in education / sports
- introduction (technical analysis) to AWE

www.ibl.fh-muenster.de/en.kitewiki/

Target group analysis results

Exemplary field work at TU Delft and NTS Berlin,
“Airborne Wind Energy Service Technician” core skills:

- applied engineering disciplines ...
- maintenance process knowledge
- safety & environmental skills

Curricular references in industrial vocations:

- mechatronic technician
- aircraft and industrial mechanic
- several vocations of electronic technicians

[http://www.ibl.fh-muenster.de/kite/wiki/index.php?
title=Qualifikationsanalyse_für_die_Instandhaltung_von_AWE-Systemen](http://www.ibl.fh-muenster.de/kite/wiki/index.php?title=Qualifikationsanalyse_für_die_Instandhaltung_von_AWE-Systemen)

Didactic design in Teacher Ed for VET

Learning tasks around AWE:

- the way of force from kite to public power supply
- planning maintenance processes
- Multidisciplinary: integrating mechanical and electrical engineering topics with sports, OE economics
- Potential and limitations of different wind energy technologies
- ...

Resumé and outlook

AWE in teacher education is at the very beginning.
Further demands:

- analyse tasks and qualification / skills
- develop & revise curricula
- prove & revise learning projects
- broadcast into general (teacher) education
- network in trans-/international contexts
- build up shared knowledge base(s)

Recent Initiatives: peer reviewing and MINT



Thank You!

Questions and proposals ??