

# Developing a culture for change in VET<sup>1</sup>

A project about evaluation and quality development in VET

## Aim and motivation

The aim of the project is to contribute to developing a culture for change at the educational institutions that participate in the program *European VET Development Initiative* under *THE VELUX FOUNDATIONS*. More specifically the aim is to support the changes that will be launched in order to enhance the quality of VET in Europe, particularly in the four countries Poland, Hungary, Slovakia, and the Check Republic. The aim of the *European VET Development Initiative* is to improve the quality by 20 percent in relation to the recruiting, encouraging more young people to enrol in VET, and encouraging the industry and commerce to recruit more employees with a VET qualification. Furthermore, the aim is that municipalities, regions, and ministries prospectively promote the improvement of quality in VET.

At the participating intuitions in the project, the development of the culture for change is based on implementing evaluation as a tool for quality development. By the concept ‘culture for change’ is meant the existence of the capability and will to currently developing activities that promote quality development. ‘Evaluation’ means an application-oriented, systematic, and databased assessment of processes. The culture for change requires that the teachers and managers at the educational institutions are able to evaluate and to apply the results of the evaluations in developments.

The evidence-based assumption is that evaluation enhances quality as well as the probability of implementing and embedding the results at the institution.

Part of the aim of the project is that the achieved outcomes will be applied in other contexts.

The development in the project encompasses three initiatives included in the *European VET Development Initiative*: mobility, excellence, and i-VET development. Differing in contents and form, the three initiatives call for different and accommodating evaluation strategies.

The aim of **the mobility program** is to develop the institutions’ competences through mobility and cooperation. The evaluation of this program will focus on the exchange of competence and the impact of this exchange on the content, structure, and development of the educational programs.

The aim of **the excellence program** is to develop continuously more suitable and up-to-date VET programs focusing e.g. on e-schools, development of general competences, work-based learning, guidance, and assessment and recognition of prior learning. The evaluation of this program will focus on how the planned activities ensure the quality of the excellence programs in VET, on the needs of the companies, and on the documentation of the development.

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<sup>1</sup> VET = Vocational Education and Training.

The aim of the **i-VET development program** is to establish a socially oriented initiative aimed at specific groups or specific geographical areas. The evaluation will focus on to which extent the initiative reaches the target groups (e.g. through the teachers' ability to differentiate the training), and to which extent the initiative meets the social and educational needs of the target group.

### The research-informed base of the project

Practical experiences as well as research-based knowledge show that there is a gap between on the one hand development and acquisition of knowledge and on the other hand the ability to apply this knowledge in developing practices, the so-called transfer problem. The project is based on existing knowledge about transfer, i.e. knowledge about how to establish the best possible coherence between acquired knowledge and action. Research points to a number of factors that influence this coherence (Wahlgren & Aarkrog, 2012; Aarkrog, 2010).

Research shows that transfer is a process that begins, before the activity is initiated, and continues both during the accomplishment of the activity and after the activity has terminated. As a consequence, embedding a change in an institution should be understood as a process that includes a 'before-phase' that prepares the change, an 'under-phase' in which the relevant competences for implementing the change are developed, and an 'after-phase' in which the obtained competences are implemented and the change achieved (Brinkerhoff & Montesino, 1995; Massenberg, Schulte, & Kauffeld, 2017). In addition, research into transfer (Blume, Ford, & Baldwin, 2010; Tonhäuser & Büker, 2016; Wahlgren, 2009) has identified factors that have an impact on transfer. These factors can be categorised in:

- Personal factors related to the learner's self-efficacy, motivation, and cognitive capabilities (Bandura, 1997; Washington, 2000).
- Educational factors that promote transfer, including the concept of 'teaching for transfer' (Bransford, Brown, & Cocking, 2002; Lim & Morris, 2006).
- Institutional factors that concern the transfer situation, including management involvement and support (Botke, Jansen, Khapova, & Tims, 2018). Focus is on the supporting environment (Saks & Belcourt, 2006; Smith-Jentsch, Salas, & Brannick, 2001) and on the opportunities for 'training transfer' (Daffron & North, 2006). The institutional factors are particularly important in the before- and after-phases, mentioned above.

As a fundament for the quality development, the project makes use of a theory-driven evaluation (Chen, 2013). A theory-driven evaluation focuses on the mechanisms that relate initiative and results aiming at clarifying the extent of the impact and the contents of the impact of the initiatives (Andersen, Wahlgren, & Wandall, 2017; Dahler-Larsen, 2013; Krogstrup, 2016; Stufflebeam & Coryn, 2014).

The focal point of theory-driven evaluation is a program theory, the development of which is based on established knowledge about relevant factors that influence the degree of implementation. The program theory includes the processes (variables) that are part of the change, which should be realised. The data collection focuses on these variables and runs parallel to the project enabling feedback and ongoing adjustments of the project. Thus, the implementation and quality development rest on a solid foundation. The research approach shares similarities with action-based research, including interaction between the practitioners and the researchers throughout the research process (Cohen, Manion, &

Morrisson, 2011, chapter 18), please also see the project *From unskilled to skilled worker – prior learning and pedagogy* (Wahlgren & Aarkrog, 2014).

The researchers in the project have successfully employed theory-driven evaluation in a development project concerning the implementation of a new pedagogical approach (cooperative learning and social-pedagogical competence) at five adult education centres, the aim being to enhance the quality of the training and reducing drop out. The program theory encompassed competence development of the teachers and managers, new teacher roles and an altered school structure, improved learning environment, and improved student well-being including reduced drop-out and enhanced quality of the training (Wahlgren, Mariager-Anderson, & Sørensen, 2015, 2016). The program theory has been described in the book *Evaluation* (Andersen et al., 2017, side 166-170).

Likewise, the researchers have participated in a project, that included half of the Danish VET colleges and in which five new pedagogical methods should be implemented based on a competence development of the teachers and managers at these colleges. With the aim of gaining insight into the processes of change including in reaching the purpose of the project (which was to reduce dropout), a theory-driven evaluation was conducted and a comprehensive program theory was developed generating knowledge about factors that significantly influenced the embedding of the changes at the VET colleges (Rambøll/NCK, 2017).

A central element in the project is competence development of the teachers as well as of the students at the VET institutions. To ensure that the evaluation is valid and that the experiences are embedded at the institutions the competences developed in the various projects should be objectively assessed. The project will be based on knowledge about the assessment of competences (Halttunen, Koivisto, & Billett, 2014; Sandberg & Kubiak, 2013; Walklin, 1991). The researchers have previously described a number of central factors related to assessment of various types of competences as well as developed methods for assessing these competences (Wahlgren & Aarkrog, 2015; Aarkrog & Wahlgren, 2015; Aarkrog & Wahlgren, 2017).

### The contents of the project

The overall purpose of the project is, at the involved institutions, to develop a culture for change that contributes to an ongoing quality development during and after the implementation of the initiatives. This requires:

1. Developing methods for experience gathering and evaluation at the involved institutions.
2. Qualifying teachers and managers for applying the results of the evaluations in developments and improvements of quality.
3. Establishing organisationally embedded strategies at the institutions in consideration of the particular national and educational conditions.

### The project includes the following tasks:

**1. Survey.** The survey concerns how the four countries work with quality, quality development, and evaluation in VET, including competence development of the teachers and managers. The survey

includes the interaction between educational institutions, the public authorities, e.g. labour market stakeholders and other institutions, e.g. universities that participate in the quality work. Data is collected about initiatives and activities related to quality development and assessment of this development that have been carried out in the four countries.<sup>2</sup>

Based on the results of the survey the program theories will be laid down for each theory-driven evaluation (dansk: virkningsevaluering) (Dahler-Larsen, 2013, p. 115-161, Krogstrup, 2016, p. 107-122).

**2. Launching activities.** As soon as possible after the beginning of the developmental projects at each institution, the institution will draw up a plan for their work on quality development. The plan should include:

- a. how the institution will assess the improvement of quality
- b. what data the institution will collect for this purpose
- c. who will be responsible for the data collection
- d. how the data collection will take place
- e. considerations about how to implement the experiences
- f. considerations about competence development of teachers and managers.

The plan should include where the responsibility for the quality development is placed in the hierarchy of decisions at the institution (Krogstrup, 2016, side 186-200). The plan should be in writing: the quality of the implementation and evaluation will be enhanced if the grant to the individual institution is based on their written considerations (Brinkerhoff & Montesino, 1995; Massenberg et al., 2017).

**3. Accomplishing evaluation and quality development.** Based on the individual institutions' written considerations about quality and development (cf. dot 2), a final and agreed-upon plan will be drawn up about the accomplishment of the development. The plan should include the contents and form of the competence development, how the evaluation should be accomplished, and how the results of the evaluation should be applied in developing quality and establishing a culture for change.

The plan includes development at each institution, a possible interaction between the institutions as well as with educational providers and companies. The culture for change must be developed in considerations of the VET system of the individual country. The activities of the project includes:

1. A meeting with the managers and representatives of the employees. At this meeting, the strategy will be established, including clarifying and agreeing upon the plan for quality development. Criteria for quality and methods for assessment of the improvement of quality will be established.
2. Competence development of the employees who participate in the evaluation and the data collection. The competence development should ensure the best possible long-lasting effect, emphasizing follow-up activities including supervision, cf. the under-phase above.
3. Accomplishing activities that improve quality.
4. Collection of data for elucidating the improvement of quality as well as factors that foster or impede the development of quality, cf. the program theory above.

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<sup>2</sup> The considerable amount of existing experiences will be gathered and systematized about quality development of VET in Denmark as well as internationally (CEDEFOP, 2015). For information about the four selected countries see Appendix.

5. Summary and presentation of data for the researchers at each institution twice during the project period.
  - a) The first presentation should focus on what has been achieved concerning the quality development and what still needs to be improved.
  - b) The second presentation should focus on the development of a culture for change based on the gathering of experiences and the results of the evaluation, cf. the after-phase above.

The institutions must themselves be responsible for accomplishing the activities aimed at improving the quality, for collecting data for the evaluation, and for the implementation of the results from the evaluation in accordance with the final plan described above. The researchers are responsible for supporting and supervising these processes.

**4. Analysis of data.** In each project, across the projects and based on the collected data, the experiences will be analysed and synthesised in order to generate generalizable knowledge about strategies of change that can be transferred to projects at other educational institutions. Thus, the aim of the project is both to develop practice and establish research-based knowledge.

**5. International dissemination.** The researchers systematize data in preparation for international dissemination and research. It is anticipated that the project will yield results that are relevant in a European context.

**6. Culture for change.** Factors will be identified and described that will ensure the long-lasting quality development embedded in a culture for change. It will be clarified to what extent the results of the individual projects have been implemented and whether sustainable change have been embedded at the individual institution. This phase is an integrated part of the project, the main aim of the project being to ensure sustainability of the enhancement of quality and of a culture for change at the institutions.

### Project timetable

The project is divided into two phases. In the first phase, a survey will be conducted and the methodology developed. Specific evaluation models are developed and tested in eight projects. In the second phase, the developed evaluation models are implemented in full scale in all the established projects.

The first phase will run from the beginning of 2019 to the end of 2020. The second phase will run from the beginning of 2021 to the end of 2023.

The total project has a duration of five years. After the first two years, the results are evaluated with the aim of revising the form and content of the project. The second phase of the project will be adjusted based on the findings in the first phase.

### January 2019 - July 2019

- The survey will be completed about knowledge of the quality measurement and the evaluation practices in four countries. The survey is based on desk research and on national data gathered from four ongoing projects.
- A theory-driven evaluation will be implemented in two projects, including competence development of teachers and a plan for data collection.

- Preliminary agreements will be made with six new projects.

### **August 2019 - December 2019**

- A seminar launching the project and presenting the evaluation design will be held for the participants in the six new projects.
- Plans will be drawn up for quality assurance activities and implementation strategies in relation to the six projects. The activities are developed and described in relation to the requirements described above.
- Competence development courses will be completed in the six projects.
- A first data collection will be completed in the first two projects that started in the spring 2019..
- A report will be completed concerning the preliminary experience about the progress and barriers of the two + six projects.
- The first article will be submitted to an international scientific journal.
- The first dissemination seminar will be held.

### **January 2020 - July 2020**

- Data will be collected from the six projects.
- Data will be analyzed and the projects are adjusted accordingly.

### **August 2020 - December 2020**

- The available data is analyzed and compiled. Conclusions will be drawn about the feasibility of evaluation strategy and quality development. Conclusions will be drawn about the form and content of the established culture for change.
- The second article will be submitted to an international scientific journal.
- The second dissemination seminar will be held.
- A progress report for the first part of the research project process will be prepared. The report presents the progression of the project, the results achieved, and the difficulties that have been associated with the realization. Against this background, the project will be adjusted for the second phase of the project.
- The results obtained will be communicated in political forums in a Danish context as well as in a European context.

### **January 2021 - December 2023**

- The detailed plan for the years 2021 to 2023 will be drawn up, parallel to the selection of the projects included in the overall program.

- The results from the project will be disseminated in the four countries where relevant.
- The results obtained will for the second time be communicated in political forums in a Danish context as well as in a European context.
- The results obtained will be disseminated through two articles in international scientific journals.

### Project organization and staffing

The project is located at the Danish Institute of Education (DPU), Aarhus University. The research project team have expertise in evaluation, competence development, vocational training, and international development projects.

During the first half year, the project is staffed with actual research expertise in DPU. The project group will be expanded with a post doc during the first project year.

Associated professor Vibe Aarkrog, DPU will be project manager and will be responsible for linking the evaluation strategy with development of quality in VET. The affiliation will be half-time.

Professor Bjarne Wahlgren is attached the project as an expert on evaluation and competence measurement. The affiliation will be half-time.

Former associate professor and head of department at National Centre of Vocational Education, now scientific assistant at DPU, Susanne Gottlieb, is assigned the project as an expert of international development of vocational education. The affiliation will be half-time.

The project is managed by a project coordinator with solid knowledge about vocational education. The coordinator ensures logistics of the project and participates simultaneously in the actual realization of the project, including participation in the data collection. In the first phase, the affiliation is full-time.

In August 2019 a post.doc. will be affiliated to the project full time.

The project will establish and a professional reference group of three international experts. The group will be funded to contribute to the project's scientific quality and progress.

### The project's financial framework

In the first phase of the project, the budget is of 5,565,000 Danish crowns. Please see the attached budget.

The overall economic framework of the total project will be 20 million Danish crowns. It is expected that the activities in the project significantly increase in the second phase of the project.

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Vibe Aarkrog and Bjarne Wahlgren

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## APPENDIX

Experiences from the four countries Poland, Czech Republic, Slovakia, and Hungary

CEDEFOP: <http://www.cedefop.europa.eu/da/events-and-projects/networks/refernet>

Country-specific reports from Maj 2018. Developments in vocational education and training policy in 2015-17:

### Poland

[www.cedefop.europa.eu/da/country-data/poland](http://www.cedefop.europa.eu/da/country-data/poland)

[http://www.cedefop.europa.eu/files/poland - vet\\_policy\\_developments.pdf](http://www.cedefop.europa.eu/files/poland - vet_policy_developments.pdf)

### Slovakia

<http://www.cedefop.europa.eu/bg/country-data/slovakia>

[http://www.cedefop.europa.eu/files/slovakia - vet\\_policy\\_developments.pdf](http://www.cedefop.europa.eu/files/slovakia - vet_policy_developments.pdf)

### Czech Republic

<http://www.cedefop.europa.eu/bg/country-data/czech-republic>

[https://cumulus.cedefop.europa.eu/files/vetelib/2016/2016\\_CR\\_CZ.pdf](https://cumulus.cedefop.europa.eu/files/vetelib/2016/2016_CR_CZ.pdf)

### Hungary

<http://www.cedefop.europa.eu/bg/country-data/hungary>

[http://www.cedefop.europa.eu/files/hungary - vet\\_policy\\_developments.pdf](http://www.cedefop.europa.eu/files/hungary - vet_policy_developments.pdf)

### **Innovation in VET**

These reports on innovation in VET were prepared by [Cedefop's ReferNet network](#) in 2014. They are part of the series [Cedefop ReferNet thematic perspectives](#) and complement other available general information on [VET systems by country](#)

Education and training are encouraging creativity and innovation that can transform economies and societies.

Innovation in new forms of cooperation and changes in curricula, teaching and technology are also bringing greater flexibility and modernising VET.

Innovation is complex, but policies can encourage it. Although not yet systematically reflected in innovation indicators and scoreboards, VET is increasingly an innovation driver.

Innovation in the labour market is reshaping VET, requiring VET itself to become dynamic and innovative. Making VET more innovative can increase people's potential to innovate and change the economy and society. Further, VET needs to innovate to be a relevant and attractive learning option, regarded by enterprises as an investment rather than a cost.

<http://www.cedefop.europa.eu/bg/publications-and-resources/country-reports/innovation-vet-slovakia>

<http://www.cedefop.europa.eu/bg/publications-and-resources/country-reports/innovation-vet-poland>

<http://www.cedefop.europa.eu/bg/publications-and-resources/country-reports/innovation-vet-hungary>

<http://www.cedefop.europa.eu/bg/publications-and-resources/country-reports/innovation-vet-czech-republic>

### **Supporting teachers and trainers for successful reforms and quality of VET**

These reports on supporting teachers and trainers for successful reforms and quality of VET were prepared by [Cedefop's ReferNet network](#) in 2015. They are part of the series [Cedefop ReferNet thematic perspectives](#) and complement other available general information on [VET systems by country](#).

VET teacher and trainer professional development is one of the strategic priorities of the Riga conclusions (2015). In 2015, ReferNet partners from the EU Member States, Iceland and Norway prepared these thematic perspectives, providing excellent snapshots of the situation of teaching and training professionals who work in initial VET, both in school and work-based settings, and including apprenticeship schemes.

There are four distinct categories of VET teachers and trainers across the countries:

- teachers of general and vocational theoretical subjects in VET schools/centres;
- teachers of practical subjects in school workshops or simulated learning environments;
- apprentice tutors (mentors) in companies;
- practical training instructors who accompany students during work-based learning parts of school-based programmes, taking place in companies.

The reports describe how the countries support initial and continuing professional development (CDP) of teachers and trainers, how they organise cooperation and partnerships between the worlds of education and of work, and national and EU-funded projects on the theme. They also address country-specific challenges, such as introduction of apprenticeship in the country, ageing teaching force, lack of teachers, and need for competences to deal with emerging issues or new requirements.

<http://www.cedefop.europa.eu/bg/publications-and-resources/country-reports/supporting-teachers-and-trainers-successful-reforms-and-5>

<http://www.cedefop.europa.eu/bg/publications-and-resources/country-reports/supporting-teachers-and-trainers-successful-reforms-and-9>

<http://www.cedefop.europa.eu/bg/publications-and-resources/country-reports/supporting-teachers-and-trainers-successful-reforms-an-16>

<http://www.cedefop.europa.eu/bg/publications-and-resources/country-reports/supporting-teachers-and-trainers-successful-reforms-an-16>