EDUCATIONAL SCIENCE AND TECHNOLOGY

A VALIDATION SYSTEM FOR NON-FORMAL AND INFORMAL LEARNING IN GERMANY

Master Thesis
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Abstract

The validation of non-formal and informal learning needs a comprehensive system to support lifelong learning in practice and to enable the development of useful validation instruments. Such a system is lacking in Germany and therefore is the leading question for this explorative research: What should a validation system for non-formal and informal learning in Germany look like?

The results from literature study, key-informant interview and expert appraisal reveal five core elements for such a validation system; validation process, validation goals, quality assurance, infrastructure and supportive environment. These core elements and their relations are arranged and illustrated in a round model with a layer for each element representing the validation system. Furthermore, the application of the validation system to existing instruments indicates that the validation system is a useful tool to evaluate and develop validation instruments. The validation system can function as basic guideline to develop concrete design instructions for different types of validation instruments. In a broader perspective represents the validation system also an adequate framework to integrate and coordinate different instruments to cover all facets of the validation of non-formal and informal learning.

Keywords: *non-formal learning, informal learning, validation of prior learning, core elements, validation system*

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Introduction

Learning is all around us. It happens everywhere, at every time in our life. Learning is not restricted to schools or universities. It happens while we play, travel and work. The perspective on learning and development of people has changed. All learning is relevant, no matter where it happened or how knowledge, skills and competence were developed. Learning is seen in a comprehensive way. While back in the days learning was understood as something that was limited to school and university education, nowadays this formal education is seen as starting point for the individual learning paths of people. Thus, learning and further development is not finished with the graduation from (vocational) educational institutions. People learn their whole life. Lifelong learning refers to all learning that happens in schools and universities, in work life and private life.

To make all learning of an individual count in society and the labour market the individual's learning needs to be made visible. This is called validation of prior learning. Prior learning refers to learning that took place before the validation. The validation of prior learning wants to recognize and give value to what someone has learned throughout his or her (working) life. Especially the learning that happens outside of (vocational) schools and universities has gained interest and attention in the last two decades. For this so called non-formal and informal learning several methods and instruments have been developed over the years to make this kind of learning visible. The visibility of non-formal and informal learning can provide an important contribution to cope with problems such as the older-growing society and the feared shortage of skilled workers in the labour market.

Although the relevance of validation of prior learning is clear to most countries, especially in the European Union (EU), the development and implementation of it runs at different paces in the European countries. In the Netherlands the validation of prior learning is called EVC (Erkenning Verworven Competenties) and has been implemented and continuously improved over a decade. The Dutch EVC provider Libereaux initiated the study presented here with the question whether a German equivalent of the Dutch EVC existed, and whether the Dutch EVC would be a useful instrument for the German market as well. This question was the starting point for the research around the topic of validation of non-formal and informal learning in Germany.

In the following the broader European context in which the validation of prior learning has gained its relevance is described. Additionally, the Dutch EVC is explained in more detail and the German situation on validation of non-formal and informal is described. This introduction results in the research questions for this Master project and an outline of the thesis.

European context

The idea of lifelong learning was promoted with the EU Memorandum on Lifelong Learning published in 2011 (Andersson, Fejes & Sandberg, 2013). The European Centre for development of vocational training (Cedefop) defines lifelong learning as all learning activities undertaken throughout life, with the aim of developing and improving knowledge, skills, competences and qualifications for personal, social and professional reasons (Cedefop, 2003). This understanding of lifelong learning has led to a change of the focus of the labour market. While years ago the focus was given to the standardised occupation someone was trained in, the focus is nowadays on specific competences and skills. "The boundaries between occupational categories are increasingly blurred" ("A New Focus on Skills", n.d.). Initial education and training of young people is consequently no longer enough to cope with labour market requirements. People need steady up-skilling and re-skilling and this cannot be the exclusive responsibility of education and training institutions through formal learning (Impact Assessment report, 2012). In the European Strategy 2020 (2010) it is explicitly mentioned that non-formal and informal learning needs to be included. Non-formal learning is all learning outside of formal (vocational) educational institutions that takes place in a structured way with planned activities and goals including some form of learning support, e.g. in-company training or structured online courses ("Validation of non-formal and informal learning", July 9, 2013). Informal learning refers to all learning that is not organised or structured in terms of goals, time and instruction and that happens outside of formal and non-formal educational and vocational training settings ("Validation of non-formal and informal learning", July 9, 2013). Other contexts for learning experiences than formal

education, such as the workplace, or volunteer work become crucial for skills development and renewal (Impact Assessment report, 2012). This means that competences that are already there need to become visible and be activated. The way in which learning took place is becoming less relevant and the fact that competences are present and available becomes more important. The individual learning and development biography is essential. The validation of non-formal and informal learning can contribute to this.

Lifelong learning and the validation of non-formal and informal learning were emphasized in the discussions around the prospective problems resulting from the demographic change that the population in the European Union is steadily growing older. The demographic change is the number one reason why a shortage of skilled workers is expected. Less young people are available to be educated and trained to enter the labour market. This structural change in the labour force requires several initiatives to deal with the problematic prospect. Although less young people enter the labour market, there are many people that are excluded from the labour market just because they do not have a formal qualification. With the validation of prior learning these people can be activated for the labour market by making their competences and their development potential visible. Especially these people, who, based on their educational and working history, are not integrated in the system of formally accredited training qualifications will benefit from the validation of their competences (Schreiber, Gutschow, Weber-Höller & Gei, 2012). The validation will give younger as well as older people the chance to proof that they are competent and valuable for the labour market. Their value and development potential will be recognised. In the context of the European Strategy 2020 (2010) one flagship initiative, called "Agenda for new skills and new jobs", is presented. This initiative challenges the member states with several action points to reach the main goal of full employment within the EU ("Agenda for new skills and jobs", n.d.). The validation of prior learning supports one of the four main areas of this flagship, skill development. Making visible what is already there and what competences still need to be developed helps to create a better matching on the labour market.

The validation serves goals as increased transparency of the competence supply, employability and mobility of people within and between companies, sectors and the EU area ("Validation of non-formal and informal learning", July 9, 2013; Berglund & Andersson, 2012; Convenant EVC, 2012; Romaniuk & Snart, 2000). It is expected that transparency and mobility will lead to a better coordination of demand and supply of the labour force (Strategie Europa 2020, 2010). Learning resulting from non-formal and informal learning experiences needs to be recognized as valuable next to formal qualifications. The possibility and accessibility to qualifications (Nachqualifizierung) based on the validation of prior learning should be provided, because it enhances the educational level, serves the purpose of re- and up-skilling of the labour force and helps to deal with the feared shortage of skilled workers (Impact Assessment report, 2012; Schreiber et al., 2012; Strategie Europa 2020, 2010). In December 2012 the Council of the European Union recommended that every member state should introduce a procedure to recognize and validate non-formal and informal learning of their work force (Council of the European Union, 2012).

The Dutch validation procedure of prior learning - EVC

Although the emphasis on this topic in the European discussion appears to be quite recent in the Netherlands the validation of prior learning has been conducted and further developed over a decade. EVC stands for "Erkenning Verworven Competenties", which means the validation of gained competences. EVC stands also for the certificate that results from the validation procedure and is called "ErVaringsCertificaat", which can be translated as experience certificate.

The idea behind EVC is to validate and recognize what people have learned through their (voluntary) work experience. With this procedure the Netherlands intended to make the development potential of the Dutch work force visible and to enhance labour market mobility (Convenant EVC, 2012). The gained competences are compared in an objective way against accepted vocational education standards called qualification standards (mbo/hbo-opleidingsstandaard) (Convenant EVC, 2012). The Dutch EVC is not an accredited diploma, but it has gained acceptance (civil effect) over the last years in several sectors. The experience certificate describes the candidate's verified competences according to the used standard.

The quality of the Dutch EVC procedure is guaranteed by an accreditation and registration of all EVC providers in the Netherlands, which is based on the document called EVC-code. The EVC-

code is a covenant signed by several governmental and social partners (Convenant EVC, 2012). In the EVC-code all basic principles of the EVC procedure are described and an EVC provider needs to fulfil these principles (Dutch Knowledge Centre for APL, 2009). The so-called kenniscentrum EVC (Dutch Knowledge Centre for accreditation of prior learning [APL]) has been established to support the EVC providers through training, research and information to stimulate high quality and continuous improvement, albeit this institution is not responsible for the quality control of the providers.

The Dutch EVC procedure knows four standard steps (Joosten-Ten Brinke, 2008): 1) inform, 2) collect, 3) value and 4) recognize. In the first step, the candidate gets all the information about the procedure, the content of the process, personal advantages and expectations on the candidate. In the second step, the candidate is supposed to collect the evidence for developed competences and build up a portfolio. In the third step, a skilled assessor gives value to the evidence in the portfolio complemented by a personal criteria-oriented interview. In the last step, the assessor writes a personal report, which resembles the experience certificate, and recognizes with this the developed competences of the candidate.

The validation process comes along with a lot of insights and opportunities that help the candidate to become aware of his or her capabilities and employability (personal communication, Libereaux, June, 2013). It gives the candidate a direction on the labour market. Most important is the candidates' new perspective on their own development possibilities. An example is to present the experience certificate to an examination board of a Dutch vocational education institution (regionaal opleidingscenter, ROC). The institution then determines whether and which certain training courses a candidate needs to follow to take part in the final examination. Thus the experience certificate can shorten the way towards a diploma.

EVC is promoted as an instrument to support re- and up-skilling, employability and durable capability of the labour force in the frame of lifelong learning to cope with the challenges originating from the demographic change (Convenant EVC, 2012). The demographic change and the challenges that come with it are also a hot topic in Germany and several possibilities to cope with it have been discussed. In the next subsection, developments with respect to the validation of prior learning in Germany are described.

German situation

In Germany the expected shortage of skilled workers in the near future, because of the demographic change is a well-discussed topic (Schreiber et al., 2012). Lifelong learning, measures and initiatives have been discussed and it became clear that there is not one solution, but several measures on different areas must be taken to counter the consequences of the demographic change. Germany has launched several initiatives, some were led by the European Strategy 2020 and corresponding European initiatives. In the field of (vocational) education and learning and development in the labour market the following initiatives can be found: 1) the translation of the European Qualifications Framework (EQF) into the German Qualifications Framework (Deutscher Qualifikationsrahmen, DQR), 2) the Federal Government's Recognition Act (Berufsqualifikationsgesetz, BQFG), which gives people the right to get their foreign professional qualifications validated and recognized and 3) the Externenprüfung, which gives people, who have not followed the formal vocational training, the opportunity to take part as external participants ('Externen') in the final examination of an accredited vocational education and training.

EQF and DQR

The European Parliament set up the EQF to create a referencing instrument with which qualifications (diplomas, certificates, etc.) are supposed to become comparable among the EU member states. This EQF is supposed to be translated and fitted to the national laws and regulations of the EU member states (Deutscher Qualifikationsrahmen für lebenslanges Lernen, 2011). Germany finished their translation in 2011 regarding qualifications received by vocational education (Status of the development of the DQR, June 2012), which is called DQR (Deutscher Qualifikationsrahmen). The DQR serves the goals of transparency, comparability, mobility and equal opportunities (AK DQR, 2011). This basically refers to formal (vocational) education qualifications. But the DQR also wants to integrate non-formal and informal learning experiences (personal communication, Expert DQR, June 10, 2013; Status DQR development, June 2012). The working group of the DQR stated in summer

2012 that they are now focusing on broadening the framework for informally and non-formally gained competences (Status DQR development, June 2012).

The DQR is, just as the EQF, structured with eight levels, which refer to ascending mastery of competences. These competences are split up into two categories; professional competence and personal competence, that each again are subdivided into two components; knowledge and skills, social competence and independence. Table 1 shows the basic structure of the DQR with its German terms and the English terms in brackets.

Niveau *(level)*			
Fachkompetenz *(professional competence)*		Personale Kompetenz *(personal competence)*	
Wissen *(knowledge)*	Fertigkeiten *(skills)*	Sozialkompetenz *(social competence)*	Selbstständigkeit *(independence)*

Table 1. Basic structure of the DQR

The officially accredited vocational trainings are allocated to the DQR in the way that generally two-year trainings belong to level 3 and three-year or three and half-year trainings belong to level 4 (see Table 2). The general school education has not been allocated yet. Discussions about this are on-going and reflections will be integrated in the reflection of the implementation phase of the DQR over five years (personal communication, Expert DQR, June 10, 2013).

Level	Description	Allocated formal vocational education
Level 1	Be in possession of competences for the fulfilment of simple requirements within a clear and stably structured field of study or work. Fulfilment of tasks takes place under supervision.	Vocational training preparation
Level 2	Be in possession of competences for the professional fulfilment of basic requirements within a clear and stably structured field of study or work. Fulfilment of tasks takes place largely under supervision.	Vocational training preparation Full-time vocational school (Basic Vocational Training)
Level 3	Be in possession of competences for the autonomous fulfilment of technical requirements with- in a field of study or field of occupational activity, which remains clear whilst being openly structured in some areas.	Dual vocational education and training (2-year training courses) Full-time vocational school (general education school leaving certificate obtained on completion of grade 10 at Realschule or, under certain circumstances, at other lower secondary school types)
Level 4	Be in possession of competences for the autonomous planning and processing of technical tasks assigned within a comprehensive field of study or field of occupational activity subject to change.	Dual vocational education and training (three-year and three-and-a-half-year training courses) Full-time vocational school (assistant occupations) Full-time vocational school (full vocational qualification)
Level 5	Be in possession of competences for the autonomous planning and processing of comprehensive technical tasks assigned within a complex and specialised field of study or field of occupational activity subject to change.	Information Technology Specialist (Certified), Service Technician (Certified)*
Level 6	Be in possession of competences for the planning, the processing and the evaluating of comprehensive technical tasks and problems set and be in possession of competences for autonomous management of processes within subareas of an academic subject or within a field of occupational activity. The structure of requirements is characterised by complexity and frequent changes.	Bachelor Commercial Specialist (Certified), Business Management Specialist (Certified), Master Craftsman (Certified), Operative IT Professional (Certified)* Fachschule (State-Certified...)
Level 7	Be in possession of competences for the processing of new and complex professional tasks and problems set	Master

	and be in possession of competences for autonomous management of processes within an academic subject or within a strategically oriented field of occupational activity. The structure of requirements is characterised by frequent and unpredictable changes.	Strategic IT Professional (Certified)*
Level 8	Be in possession of competences for the obtaining of research findings in an academic subject or for the development of innovative solutions and procedures within a field of occupational activity. The structure of requirements is characterised by novel and unclear problem situations.	Doctoral studies

* The German Qualifications Framework Working Group agrees that additional further vocational training qualifications should be allocated in accordance with the procedure described in the DQR Manual.

Table 2. Overview DQR levels

Although the DQR tries to include non-formal and informal learning in the future it is not an instrument to make this kind of learning visible. It is not a validation instrument itself, but the results of a validation might lead the way towards an allocation of non-formal and informal learning in the DQR.

The Recognition Act

The Recognition Act (BQFG) came into effect in April 2012 and creates statutory regulations for the validation and classification of occupational skills gained in a foreign country. The BQFG is based on European laws that compel the member states to recognize foreign qualifications if no significant differences can be made out. This does not refer to an awarding of a German qualification. In the procedure the foreign qualifications are merely compared to a German reference qualification to approve equality.

Although the German name of the law suggests the validation and recognition of all vocational qualifications, this law only focuses on professional qualifications gained abroad. Next to that, this law does not try to make non-formal and informal learning visible, but focuses on the comparison of formal foreign qualifications with the German accredited vocational qualifications.

Externenprüfung

Candidates get the chance to take part as external participants (‘Externe’) in the final examination of an accredited vocational training for a certain occupation. The Externenprüfung is meant for persons, who have worked a certain time in a certain profession or occupation, but never followed and/or finished the vocational educational training with the proper examination. The access to the examination is granted based on some pre-conditions, which are determined by the Vocational Training Act (Berufsbildungsgesetz, BBiG, §45 Abs. 2) and the trade and crafts code (Handwerksordnung, HwO, §37 Abs. 2). The candidate needs to proof that he or she has gained work experience in at least a minimum time of one and a half times the duration of the vocational training for the occupation in question. The candidate also needs to proof that he or she has executed the tasks, which a skilled worker has to do.

The Externenprüfung is a formalisation instrument for non-formal and informal learning and only makes the learning explicit and visible when the examination is passed. If the candidate fails the examination no proof is granted that learning took place and that the candidate probably is capable anyway.

Coming back to the starting question whether Germany has something similar to the Dutch EVC, the answer is no. Although the above described initiatives and possibilities are given, there is no similar instrument as the Dutch EVC recognizable in Germany. The initiatives present some starting points, but they lack to a significant degree to include, focus on or make non-formal and informal learning visible. At the moment there is no systematic, uniform nationwide and cross-sector instrument for the validation of non-formal and informal learning in Germany (Annen & Bretschneider, 2009; Schreiber et al., 2012). To support the development of such a validation instrument it is beneficial to first take a look at the broader picture of validation. A systematic, uniform nationwide cross-sector validation instrument needs a system in which it can be utilised. A

comprehensive national validation system brings lifelong learning into practice (Colardyn & Bjornavold, 2004). This kind of system is also missing in Germany. Therefore, a comprehensive validation system has to be established that provides a frame in which validation instruments can be integrated and used. Such a validation system can also guide the development of useful validation instruments and enables comparison between them.

Research Question(s)

The problematic prospect of the German labour market illustrates the need to incorporate the new perspective on learning, development and qualifications in the labour market. The described initiatives represent starting points to assess learning that has not been acquired in a (German) formal vocational educational setting and illustrate that Germany has recognized the need for it. But a clear focus on non-formal and informal learning is missing. Before developing concrete and specific validation instruments a nation-wide validation system should be established in which useful validation instruments can be integrated and utilised to make non-formal and informal learning visible. A nation-wide validation system can serve as guideline for the development, implementation and comparison of concrete validation instruments. Such a system also prevents the development and implementation of many regionally different and not coherent, isolated instruments.

From this the central research question for this Master project on the validation of non-formal and informal learning in Germany arises:

What should a validation system for non-formal and informal learning in Germany look like?

To answer this main question, three sub-questions have been formulated:

1. *What are the core elements of a validation system for non-formal and informal learning in Germany?*
2. *How are the core elements related within the validation system for non-formal and informal learning in Germany?*
3. *How can the validation system for non-formal and informal learning serve as guideline for the development of validation instruments?*

These questions structure this explorative research project and provide sufficient directions to collect relevant information.

Outline of the thesis

In the following chapter the research design is described. Afterwards, the research methods and results are described in two cycles and give a chronological impression of the research. In the first cycle information is gathered by literature study and interviews to describe a first design of a validation system for Germany, which is then evaluated by expert appraisal. This first cycle mainly answers the first two sub-questions. The second cycle starts with the adaption of the validation system towards the final design of the validation system for non-formal and informal learning in Germany. This final design is applied to existing validation instruments in Germany to answer the third sub-question. The last chapter comprises the discussion and conclusion. In the discussion a reflection on this research and its results is presented as well as suggestions for further research. The conclusion provides the answers to the research questions.

Research design

This Master research about the validation of non-formal and informal learning in Germany can be typified as design-based research. Design-based research is a research method that combines knowledge from theory and practice to serve the contribution to both theory and practice (McKenney & Reeves, 2012). With design-based research a solution for a practical problem is developed and through the iterative development process new theoretical knowledge is gained. McKenney and Reeves (2012) have developed a model for design-based research that describes all stages and the iterative character of the research process. Design-based research knows three stages that are taken in an iterative manner: 1) analyses and exploration, 2) design and construction and 3) evaluation and reflection. The iterative character means that design-based research has no clear predefined linear research process. All three stages are taken and most probably they are taken several times, because gathered information in one phase serves to gather more and better information in another phase. This fits the explorative character of this research, which neglects strict predetermined research procedures, but that strives for insights via many data sources, led by the collected data and a flexible arrangement (Swanborn, 2007).

In this research the stages were run through two times resulting in two cycles. The activities executed in the first cycle (*Cycle* 1) wanted to answer the sub-research questions:

1. *What are the core elements of a validation system for non-formal and informal learning in Germany?*
2. *How are the core elements related within the validation system?*

Cycle 1 includes a literature study and interviews in the analyses and exploration stage, a first model and description of a validation system for Germany in the design and construction stage and again interviews to evaluate the first model and description of the validation system in the evaluation and reflection stage. The evaluation and reflection stage of the first cycle blended into the analysis and exploration stage of the second cycle (*Cycle 2*). From the analysis of the evaluation interviews information was gathered to adapt and improve the model and description of the validation system for Germany in the second design and construction stage. The adapted validation system was then applied to three existing instruments in Germany in the second evaluation and reflection stage to answer the third sub-research question:

3. *How can the validation system serve as guideline for the development of validation instruments?*

The information gathered was used to formulate recommendations about further development of the three instruments and the integration into the validation system as described in the second design and construction stage.

In the following chapter the first research cycle is described with the stages of analysis and exploration, design and construction and evaluation and reflection. For each stage the used methods and results are specified.

Cycle 1

This chapter describes the first research cycle with the stages of analysis and exploration, design and construction and evaluation and reflection. Under analysis and exploration the methods and results of the literature study and the key-informant interviews are described. Under design and construction a first model of the validation system for non-formal and informal learning in Germany is presented. The first cycle is completed with the description of the evaluation of the first model of the validation system by expert appraisal and the results.

Analysis and exploration 1

In this first analysis and exploration phase a literature study and key-informant interviews were executed to explore the topic of the validation of non-formal and informal learning and the German context. In the following subsections are the literature study and the interviews described. First is the literature study and its setup described, followed by a detailed presentation of the results divided into the description of the German context and the scientific literature on validation of non-formal and informal learning forming the theoretical framework for this research. Afterwards, the setup for the interviews is described, followed by a summary of the results.

Literature study

For the literature study several databases for scientific and other literature were used. On the one hand the databases accessible through the University of Twente (UT), e.g. ERIC, Web of Science, Scopus and the UT catalogus were searched. On the other hand the databases of relevant institutions in Germany, the Netherlands and the European Union were searched, e.g. Bundesinstitut für Berufsbildung, Bundesministerium für Forschung und Bildung, Industrie- und Handelskammern (IHK), Dutch Knowledge Centre for APL (kenniscentrum EVC), ROCs (Dutch vocational educational training institutions), archives of the European Parliament, the European Commission and relevant European Initiatives websites (e.g. Cedefop). Additionally, Google and Google scholar were used as useful tools for broad search actions, especially in the beginning. It was searched for research articles, literature reviews and reports about prior learning validation, legal regulations of both countries and experience reports from other countries all over the world.

For the search several searching terms and combinations of them were used, as this research required a great facetted search on several concepts and topics, e.g. competence, non-formal, informal learning, validation, EVC and the German vocational system. Given the diverse topics the literature study needed to cover relevant literature dating back to different time periods. The search through databases was focussed on recent literature starting from the year 2000. The year 2000 served as starting point to take a closer look to the more recent literature first. Of course older sources were taken into account if they provided a relevant contribution to the research. The relevance of found literature based on the searching terms was determined first by reading the title of the source, and second, if the title suggested it was a relevant source, by reading the abstract. To determine the ultimate relevance of a source for this research it was scanned and, if necessary, the source was read completely. The literature study was used to understand the context of the project, to clearly define the concepts relevant for this project and to find the relevant elements for a German validation system of prior learning.

In the following sub-section the results of the literature study regarding the German context are described.

Context

In general, the validation of non-formal and informal learning is closely related to the vocational educational system of a country. The vocational educational system is supposed to qualify people for the labour market and therefore provides the basis for the validation of non-formal and informal learning. The validation of non-formal and informal learning can be created in a way that it fits the system or changes the system (Andersson, Fejes & Ahn, 2004; Annen & Bretschneider, 2009). Either way there is a relation between the vocational education and training system in a country and

the validation of prior learning. For this reason it is necessary to get an impression on the vocational educational system in Germany and to understand who are the important actors in this system.

German Vocational Education system

The dual system

At large, vocational education and training in Germany is implemented in a dual system, which is statutory-regulated in the Vocational Training Act (BBiG, Berufsbildungsgesetz) and the trade and crafts code (HwO, Handwerksordnung) (Marzell et al., 2008). At the moment there are 330 vocational education trainings available that are accredited in accordance to the BBiG („Liste der staatlich anerkannten Ausbildungsberufe“, Status: 1.8.2013).

The education and training takes place at two learning locations: 1) in the organization and 2) at a vocational school (Berufsschule). The BBiG and the HwO determine the basic structures for the organisational part of the vocational education on national level. The Kultusminister Konferenz (KMK, Standing Conference of the Ministers of Education and Cultural Affairs of the Länder) determines the framework curricula's (Rahmenlehrpläne) for the school part on a national level. As educational policy normally falls under the sovereignty of the federal states, the KMK is an important institution to harmonise the educational policies of the 16 federal states in Germany. For the school part of the vocational training framework curricula's are compiled in accordance to the training regulations. The framework curricula's are structured by learning fields and developed by teachers based on a document of the KMK. The KMK is the publishing organ for the framework curricula's ("Rahmenlehrpläne und Ausbildungsordnung", n.d.). Training regulations determine the occupational competence that needs to be developed within the organisational part of the vocational training. Every training organisation can develop an individual and concrete training plan that covers the areas of occupational competence given in the training regulation. The distribution of the time spent in the organisation or at school can differ per region and sector. Trainees might be three to four days a week in the organisation and up to two days at school. Another option is to organise the vocational training in block instruction, where the trainees are up to three months in the organisation and up to two months at school. Thus the specific implementation of the training regulations and framework curricula's can slightly differ between organisations and federal states.

The vocational education and training is supposed to deliver the necessary competences and qualifications in a structured training course to prepare the trainees for the execution of a qualified occupation in a dynamic working environment. Thus, the vocational education and training should provide the theoretical foundation for a profession and relevant work experience. The examination and graduation allow the trainees immediate access to working positions as qualified skilled workers in the labour market.

In Germany, half an age cohort of adolescents (53%) finishes a two- or three-year vocational education and training in the dual system (Hippach-Schneider, Krause & Woll, 2007). Most trainees received a high-school diploma (Realschulabschluss, Mittlerer Schulabschluss) or an A level equivalent university entrance qualification (Abitur) before starting the vocational education and training. To start a vocational education and training the time of compulsory school attendance must be fulfilled. There are further no other conditions and the access to the vocational education and training is principally open to everyone. The trainees have to apply for the vocational training at the organisation and run through a selection process organised by the respective organisation. The vocational education and training is based on the vocational training contract between the organisation and the trainee. The organisation is responsible and pays for the organisational part of vocational education and training. The trainees receive a trainee allowance, which is regulated by the relevant unions (Tarifparteien) and which enhances every year of the vocational training.

The chambers as social partners

In the dual system, the training organisations receive support and assistance from the social partners. The social partners or vocational training partners are the chambers of industry, commerce, handicrafts, agriculture, free professions, public administration, health care services and more than 900 inter-company vocational training institutions. The chambers are the competent authorities in the vocational education and training and have several tasks to fulfil (Hippach-Schneider et al., 2007).

The vocational education and training in the dual system can only be executed in certified organisations that comply with the training regulations and provide training personnel with the appropriate personal and subject-specific qualification. The certification of the training organisations and the training personnel is watched and controlled by the chambers. The chambers also watch the orderly execution of the vocational education and training, advise the organisations, register trainees, conduct examinations and award qualifications. The chambers are also responsible for the Externenprüfung and the decision about access to the examination takes the chairman of the examination board at the responsible chamber. The social partners give recommendations on a regional level regarding the coordination between vocational school and organisation. On a national level the social partners are involved in the development of vocational training courses and standards and give recommendations for all areas and aspects of the vocational education and training.

The Chambers of Commerce and Industry (Industrie- und Handelskammer, IHK) execute about 600.000 examinations in roughly 270 accredited vocational trainings a year ("Ausbildungsprüfung", n.d.). With these numbers the IHKs are a significant actor in the vocational education and training in Germany. The IHKs are organised in 80 regional chambers. The umbrella organisation of the IHKs is the Association of German Chambers of Commerce and Industry (Deutscher Industrie- und Handelskammertag, DIHK), which represents more than three million entrepreneurs ("Chambers of Commerce and Industry", n.d.). The service point IHK FOSA (Foreign Skills Approval), which, next to the IHKs in Braunschweig, Hannover and Wuppertal, is responsible for the approval of foreign skills in the industry and commerce sector according to the Recognition Act (BQFG) ("IHK Prüfung der Gleichwertigkeit", n.d.).

Other vocational education and training in Germany

Next to the accredited and regulated vocational education and training other forms of vocational education and training developed in the different federal states of Germany. Educational policy falls under the sovereignty of the federal states of Germany and each state has the legitimacy to make own decisions regarding education in the respective state. Under the term full-time vocational schools (Berufliche Vollzeitschulen) several school types are summarized that are not part of the dual system and some types are only represented in particular states (Hippach-Schneider et al., 2007). These schools offer a variety of vocational education and training, which lead towards a professional qualification or prepare for a vocational training in the dual system.

The validation of prior learning should not form a parallel system to the formal system. Links to the formal vocational educational system need to be found to integrate non-formal and informal learning into the formal system in Germany. For example, access to further training and development opportunities based on the validation of prior learning should be granted. The chambers with their central role in the vocational education also need to be involved in the validation of prior learning to support the integration of non-formal and informal learning into the formal system and enhance acceptance. With the linking position of the chambers between politics and economy their involvement and contribution to the validation of non-formal and informal learning is essential.

In the following sub-section an overview of the different aspects of validating non-formal and informal learning from scientific literature is given. This forms the theoretical framework for this research.

Theoretical framework

In scientific literature several terms and abbreviations are used to describe the validation, accreditation, recognition or assessment of prior learning. For the research presented here the term validation of non-formal and informal learning is used to emphasise the focus on these types of learning to reach learning outcomes and develop competences. The concept of validation is preferred, because of the broad range of this term. It includes assessment, recognition and accreditation (Andersson et al., 2004). Colardyn and Bjornavold (2004) define validation as the process of identifying, assessing and recognizing a facetted range of skills and competences that people develop throughout their lives and in different contexts.

Bjornavold and Le Mouillour (2009) introduce the term 'validation of learning outcomes', which puts less emphasis on the different learning types but on the fundament of every validation. Learning outcomes are what validation instruments are focussed on in the end, disregarding the way in which learning took place. Learning outcomes are defined in knowledge, skills and competences (European Commission, 2012). Knowledge is a collection of facts, concepts, principles, theories and practice in a field of study or work as a result of learning and understanding (AK DQR, 2011). Skills refer to the ability to apply knowledge and use know-how to complete tasks and solve problems (AK DQR, 2011). Competences combine knowledge, skills and attitudes and refer to the ability to use this combination to handle upcoming situations. The Arbeitskreis (AK) DQR (2011) understands competences as comprehensive action skills. Andersson et al. (2004) differentiate real competence and formal competence, whereas real competence refers to the actual ability to use someone's knowledge and formal competence refers to formally accredited competence.

In the following subsections the several aspects of validating non-formal and informal learning retrieved from the explorative literature study are presented. The validation of prior learning is described in the broader picture of lifelong learning and the contexts in which it plays a role are specified. The goals, process and methods for validating prior learning are identified. Finally, the quality of validation systems is described.

Lifelong learning and the validation of prior learning

With the Memorandum on Lifelong Learning published in 2001 the new view on learning was determined. This new view understands all learning and all knowledge as valuable and assumes that all learning can be accepted in a formal sense (Andersson et al., 2013; Andersson et al., 2004). With this development the term learning was not limited to formal educational settings anymore. A more comprehensive understanding including non-formal and informal learning was determined (Andersson et al., 2013). The idea of validating non-formal and informal learning emerged in relation to the rising of the concept of Lifelong Learning and is becoming a key aspect of lifelong learning policies (Andersson et al., 2013; Colardyn & Bjornavold, 2004). In the Memorandum on Lifelong Learning (2001) valuing learning was presented as one of six key messages and the European Commission established both lifelong learning and the validation of prior learning as policy areas with this memorandum. The validation of prior learning can be understood as part of the vision of lifelong learning, but the term can also refer to validation as instrument or process (personal communication, expert EU, October 2, 2013). In the following the validation of prior learning is understood as a part of lifelong learning and if the text is referring to the process of validation this is mentioned explicitly.

Validation context

The validation of prior learning takes place in three relevant contexts: 1) the educational system, 2) the working life and 3) the voluntary work sector (Andersson et al., 2013). Evans (2003 in Joosten-Ten Brinke et al., 2008) states that the development of validation procedures that allow learners to enter educational programs based on their prior informal and non-formal learning is an important contribution to lifelong learning. But not only the access to educational programs is a contribution to lifelong learning. Experience and learning obtained in the working life and the voluntary work sector can be made visible and recognized to stimulate further personal development, employability and mobility. Joosten-Ten Brinke et al. (2008) summarize seven main characteristics for validation procedures: 1) different types of learning are recognized; 2) the procedures have a clear structure and time schedule; 3) the outcome of each procedure can differ (credit points, exemptions, study plan, certificate); 4) the procedures are beneficial for the candidate, the (educational) institution and the community/society; 5) a combination of methods (simulations, knowledge tests, performance assessments, interviews) is used to provide evidence of prior learning; 6) the procedures require a high level of responsibility from learners and a sufficient level of support and 7) the procedures are time-consuming. Although the authors refer to validation procedures used for the admission to educational programs these characteristics are not only appropriate for validation procedures to gain access to higher education. They are applicable to all validation procedures of prior learning regardless the context, goal or purpose. To realise the value of the validation of prior learning it is important that the labour market, (vocational) educational system, and the candidates trust in the validation of prior learning (Andersson et al., 2004, Duvekot, 2009). A formal legalisation, clear methods and political

outlines are according to Andersson et al. (2004) necessary to achieve acceptance and legitimacy of the validation in society.

Validation goals

The goal of the validation of prior learning is not clearly defined in literature and many authors give many different goals for a validation. This might be related to the two perspectives on the validation of prior learning as part of lifelong learning or as process or instrument. While validation of prior learning as part of lifelong learning refers to broader and common goals, such as employability and mobility, the validation process refers to more concrete objectives, such as the documentation of competences. In this research the perspective of broader goals is preferred. The validation process is seen as a separate core element of a validation system. Andersson et al. (2003 in Andersson et al., 2004) summarize the following main goals of validating prior learning: 1) social justice, 2) competitiveness and economic development and the potential of using available competence in the labour market, 3) social change. Andersson et al. (2013) describe in their introduction to a special issue of the International Journal of Lifelong Education on the recognition of prior learning, that the focus of the concept has changed over the years from aspects as social justice and change to benefits for the society and economic development. The new focus on society and economic development is also the one that is clearly recognizable in the current strategies, recommendations, statements and developments in the European Union. With the shift in economic discourse towards economic growth and employability also a shift in validation discourse took place (Andersson et al., 2013). Existing vocational and professional competence need to be used more effectively in the labour market (Bohlinger, 2009). Labour market mobility and employability of employees and potential employees are formulated as goals (Berglund & Andersson, 2012; Convenant EVC, 2012; Romaniuk & Snart, 2000). Also the shaping of active citizens who want to learn and who take responsibility for their own learning in order to become employable are a goal in the frame of lifelong learning strategies (Duvekot, 2009; Fejes, 2010 in Andersson et al., 2013).

According to Berglund and Andersson (2012), research and practice show that the validation of prior learning contributes to organisations' need for competence and candidate's need for employability. In opposite to the traditional validation, where the contextual transferability is seen as the strength, the validation conducted within organisations follow the purpose of utilisation (Berglund & Andersson, 2012). Berglund and Andersson (2012) see as strength of the validation of prior learning to make unaccredited competences visible and usable for employers as well as employees. Visibility and utilisation of competences are understood as goals for the validation of prior learning.

Other researchers (Bohlinger, 2012; Colardyn and Bjornavold, 2004) state as goal for a validation to make the entire scope of knowledge and experience that is held by an individual visible, neglecting the context where the learning originally occurred. People become aware of what they are capable of and thus become more able to plan and direct their own career (Duvekot, 2009; Impact Assessment Report, 2012). Duvekot (2009) and Berglund and Andersson (2012) emphasize that the validation of prior learning can empower and motivate the candidate and that this could become a win-win situation for the employer and the candidate. According to the Dutch EVC covenant (2012), a validation process can create awareness for a person's development potential, whether a person is employed or unemployed. Investing in a validation process might also raise concerns. Financial demands might come up based on the outcome of the validation process (Berglund & Andersson, 2012, personal communication, Expert DIHK, June 17, 2013). Furthermore, organisations might take the risk that employees leave the organisation after investing in making the employees' competences visible (Berglund & Andersson, 2012). In the Netherlands this kind of behaviour is rarely observed. A validation process rather benefits the loyalty towards the investing organisation (personal communication, Expert kenniscentrum EVC, June 7, 2013).

The validation process

The validation process of prior learning knows four standard steps: 1) identification, 2) documentation, 3) assessment and 4) certification (AKs DQR, 2011; Bohlinger, 2009; Colardyn & Bjornavold, 2004; Duvekot, 2009; Joosten-Ten Brinke et al., 2008). A validation process is supposed to describe the candidate's real knowledge and competence in a way that both the educational system and employers can accept the description and transform the real competence into formal competence

(Andersson et al., 2004). Andersson et al. (2004) divided the validation of prior learning in two models. The first model is adapted to and focuses on the demands of the formal system. Some knowledge and learning are positioned as valuable, while others are excluded. Harris (1999 in Andersson et al., 2004) stresses that the needs and demands of the formal system determine the value of competences. This convergent model represents an assessment focused on the question if someone knows certain things (Andersson et al., 2004). The second model, the divergent model, focuses on the question what someone knows and tries, instead of adapting to it, to change the system. The authors state that the process is to a certain extent divergent, if no vocation is included. If the validation wants to assess actual vocational competence the convergent standards of the vocation are predominant (Andersson et al., 2004). Furthermore, the authors point out that the convergent model implies a more static view on knowledge, using occupational standards as starting point, while the divergent model implies a more dynamic view of knowledge, taking the individual's vocational background as starting point.

Colardyn and Bjornavold (2004) give a similar distinction of the validation process of prior learning. The authors describe two distinctive approaches to the validation process, which are not mutually exclusive (Bjornavold & Le Mouillour, 2009; Berglund & Andersson, 2012). The first approach is the formative approach that focuses on adjusting, informing and leading the learning and development process (Bjornavold & Le Mouillour, 2009; Berglund & Andersson, 2012; Colardyn & Bjornavold, 2004). This is similar to the divergent model described by Andersson et al. (2004). The second approach is the summative approach, which focuses on identifying and assessing learning outcomes according to standards and to award a formal recognition (certificate, diploma, etc.) (Bjornavold & Le Mouillour, 2009; Colardyn & Bjornavold, 2004). The summative approach can be found in the convergent model of Andersson et al. (2004). The validation of prior learning has been used for a relatively long time in accordance to a more summative approach (Andersson et al., 2004). Both approaches are general ways to meet the needs of a person whose skills are assessed (Berglund & Anddersson, 2012). Baartman, Prins, Kirschner and Van der Vleuten (2007) support the combination of summative and formative assessments.

Validation methods

Two methods that are used the most in validation processes are the portfolio and the authentic assessment (Andersson et al., 2004; Annen & Bretschneider, 2009). The portfolio compiles personal, social and occupational experiences to highlight competences (Colardyn & Bjornavold, 2004). Evidence for the portfolio is taken from the curriculum vitae, information about education, training and career development, and products of occupational activities.

Authentic assessment or performance demonstrations aim to assess knowledge and competence in an as realistic as possible situation (Andersson et al., 2004; Dierick & Dochy, 2001). This can be simulated situations or real work situations. A trained third party (assessor) observes the candidate and judges, according to strict rules and methods, whether a competence described in a standard is shown (Colardyn & Bjornavold, 2004).

Besides, self-reflection is an important element of the validation process (Andersson et al., 2004) and can be easily integrated with the portfolio or authentic assessment. The way the methods are constructed and used is influenced by the approach (summative, formative or a combination) chosen for the validation process. No matter which methods are used in the validation process the assessor needs to be properly trained in using the methods to collect relevant and reliable evidence (Colardyn & Bjornavold, 2004).

Quality of validation systems for recognition of prior learning

As already mentioned above, it is necessary that the labour market, the (vocational) educational system and the candidates can trust in the validation of prior learning (Andersson et al., 2004, Duvekot, 2009). For this reason the quality of the validation system and results is essential.

Colardyn and Bjornavold (2004) state that the requirements for the validation such as reliability, validity and quality procedures need to be defined. Baartman et al. (2006) emphasize in their quality criteria framework the different characters of competence assessment programs (equal to validation procedures of non-formal and informal learning) against classical tests and assessments. The authors and other researcher (Bronkhorst, Baartman & Stokking, 2012; Dierick & Dochy, 2001)

argue that quality criteria, as validity and reliability, are not suitable for the mainly qualitative validation procedures, but they should not be neglected. The emphasis of the concepts of validity and reliability need to be adapted to the new character of competence assessment (Dierick & Dochy, 2001). Baartman et al. (2006) conclude that validity and reliability are container concepts that are too broad for competence assessment. They propose to split them up to be more fitting to the assessment of non-formal and informal learning. Table 3 shows the twelve quality criteria of Baartman et al. (2006) with a short description of each criterion. The criteria are originally compiled for validation procedures that provide access to educational programs. But these criteria can also be interpreted in the broader context of professional development, also within the vocational education system and the labour market.

Criterion	Description
Fitness for purpose	The assessment fits the development purpose and objectives of the context.
Transparency	The assessment method, criteria and purpose are clear to all participants-candidates, counsellors, assessors, social partners and the labour market
Acceptability	Participant's acceptance of the assessment method and results
Reproducibility of decisions	The assessment program has several assessment moments and decisions made on the basis of results are accurate and constant over time and assessors
Comparability	The assessment is consistent, standardized and comparable for all learners
Fairness	Bias does not influence the assessment process
Cognitive complexity	Candidates prove their acquisition of (higher cognitive) skills, which relate to and represent the level of process applied in (future) professions
Fitness for self-assessment	The assessment stimulates self-assessment and reflection
Meaningfulness	The assessment and goals fit together and create a surplus value for both the labour market and the candidates
Authenticity	The tasks that a candidate has to fulfil should have a direct link with the (future) occupational practice (Gulikers et al. 2004)
Educational consequences	The assessment is implemented only if positive effects are expected and negative aspects can be minimized
Costs and efficiency	The assessment is feasible in terms of costs and time investment

Table 3. Quality criteria from Baartman et al., 2006 adapted to the broader context of professional development.

A quality system should underpin the whole validation system, processes and procedures (Duvekot, 2009). The quality criteria from Baartman et al. (2006) can function as guideline to set up such a quality system. Also the quality and professionalism of the assessors need to be assured and controlled as this relates to the reliability of the validation process (Colardy & Bjornavold, 2004; Duvekot, 2009; Klarus, 1998).

The next section covers the setup and the results of the interviews executed to completed the information from the literature study. This summary of the interviews results rounds up the first analysis and exploration stage.

Key-informants interviews

In addition to the literature study interviews with key-informants were executed in the analysis and exploration stage. The interview partners were drawn from the Dutch and German context. From the literature study the following relevant domains were collected: a) the Dutch Knowledge Centre of Accreditation of Prior Learning (kenniscentrum EVC), b) the Dutch Knowledge Centre for vocational educational training and the labour market of hospitality, bakery, travel, leisure and facility management (further referenced with kenwerk), c) the Chambers of Industry and Commerce (IHK) in Germany and d) the German Qualifications Framework. From the four domains each one expert was found to participate as key-informant in the interviews. The interview partners were key-informants as they all had a different expert perspective on the validation of non-formal and informal learning. From the IHK two experts were found, but one interview had to be excluded from the data set as it turned out to be more an information source for the interview partner than for this research. Additionally, one independent German expert was advised by a contact from the IHK in Münster, who was experienced

in research projects regarding the Dutch-German area in the field of vocational education and training. This expert advised an independent Dutch expert with the same background and both experts participated as key-informants. The selection of key-informants was restricted to people from the relevant domains and their accessibility and willingness to participate were determining. In total six key-informants were found that covered the four domains retrieved from the literature study.

Interviews were chosen because they create the opportunity to follow through on given answers, clarify mentioned aspects and ideas and provide information that the researcher could not think of as relevant to ask for beforehand (Verschuren & Dooreward, 2007). The key-informant interviews were conducted parallel to the literature study and had an explorative character to complete the picture of the context and to provide information about relevant elements for the validation of non-formal and informal learning.

In the frame of an explorative study the interviews were semi-structured with a short topic list to ask questions about. The interview topics were kept rather general to explore how expert the key-informants would actually were. A cluster was created that gives an overview of the relevant topics for the interviews. The topics refer to the personal background of the key-informant, the experience with validation systems or instruments like EVC, projects and recent developments in the field of validation, known existing instruments in Germany, the practice and use of EVC or other known validation instruments including the goals and acceptance of the instruments, the process and its quality, the DQR, respectively the NLQF (Dutch Qualifications Framework) or EQF and finally the institutional position regarding the validation of prior learning. Table 4 shows the cluster, which links the common topics to the key-informants. Because of the different backgrounds of the key-informants a main focus for each interview was formulated, which gave direction to the questions regarding the common topics selected for the interview. Some topics were not relevant to ask each key-informant about, because of their national or professional background.

		Common topic							
	Focus	Background	Experience EVC or similar	Projects, recent developments	Existing instruments in Germany	Practice, use, incl. Goals & acceptance	Process incl. quality	DQR, NLQF, EQF	Institutional position with respect to validation
Independent Dutch expert	Experience	X	X	X		X	X		
Independent German expert	Experience	X	X	X	X	X	X	X	
Expert kennis-centrum EVC	Development EVC	X	X	X		X	X	X	
Expert DQR	Political situation	X			X	X	X	X	X
Expert kenwerk	Qualification-dossiers	X	X	X		X	X	X	
Expert DIHK	Value, use, benefit, need	X	X	X	X	X	X	X	X

Table 4. Key-informant interview cluster

Each interview took about an hour, was recorded and afterwards transcribed. From the transcription a category framework was developed. The category framework evolved from running through the transcription and coding fragments of the interview. From the codes (sub-) categories emerged. This was done for each interview. Afterwards the categories of each interview were compared with the other interviews and main categories were formed.

In the following sub-section the results of the interviews and the formed categories are described.

Results

As the topics and questions for the key-informants were kept rather general, the analysis of the six key-informant interviews was executed with the leading research question in mind; what should a validation system for non-formal and informal learning in Germany look like. This way the interviews were analysed for important aspects and elements for a validation system of non-formal and informal

learning. This led to several main categories and sub-categories. Table 5 shows the categories and subcategories. Despite the different backgrounds of the key-informants it was relatively straightforward to construct categories from the interviews as all of the key-informants mentioned more or less the same aspects that are relevant for a validation system. The categories almost equal the relevant elements of a validation system and the subcategories refer to specific aspects of the element. Some categories were taken from common topics from the interview cluster, e.g. process, existing instruments and goals.

Category	Sub-category
Standards	Learning outcomes
Process	Instruments, advisory and counselling work, differentiation
Existing instruments	
Goals	
Benefits/advantages	Sustainability, loyalty
Acceptance	Publicity, advisory and counselling work, existing structures
Quality	Quality assurance system
Infrastructure	Existing structures
Financing	
Legal aspects	Educational laws, European regulations, salary structures, privacy and data security
Responsibilities	

Table 5. Categories key-informant interviews

Standards

As a fundament for the validation of prior learning, three key-informants mention that it is necessary to have standards against which the validation can be executed. These standards need to be measurable (Expert kenniscentrum EVC, Expert kenwerk, Expert DQR). In the Netherlands these standards are the qualification dossiers or job competence profiles. In Germany the qualification framework for vocational education and training could be developed towards such a measurable occupational standard comparable to the Dutch qualification dossiers according to the expert from kenwerk. Another aspect, mentioned by three key-informants, is an orientation on learning outcomes, that is desired in a validation system to fit to recent developments in the educational sector in Germany and Europe, e.g. DQR, ECVET (Expert kenniscentrum EVC, Independent German expert, Expert DQR). The formulation of learning outcomes enables various approaches to reach learning results additional to formal education (Expert DQR).

Process

The expert from the DIHK brings up the question whether a self-evaluation of a person or an assessment by a third person is the better option. According to two key-informants (Expert DQR, Expert kenniscentrum EVC) the validation process needs to include differentiated instruments. Instruments need to fit to and cover the occupational standard, which depends on the level of the standard (Expert kenniscentrum EVC). In relation to this, differentiated advice towards interested parties, e.g. candidates or organisations, is necessary (Expert DQR, Expert kenniscentrum EVC). The goals of the candidate need to be determined in the beginning of the process and instruments should be chosen accordingly (Expert kenniscentrum EVC).

Existing instruments

The German key-informants mention that there are already a lot of instruments for validation in Germany. The following instruments were mentioned: a) ProfilPass, b) Externenprüfung, c) EuroPass and d) ANKOM-Initiative. Additionally, some instruments from other European countries were mentioned.

Goals

As goals for the validation of prior learning the key-informants mention visibility and transparency of competences (Expert DQR), mobility (Expert kenwerk), giving value to the individual

competences (Expert kenniscentrum EVC, Independent Dutch expert), enhance educational level (Expert kenniscentrum EVC) and formal qualifications (diplomas) (Expert kenniscentrum EVC, Expert kenwerk).

Benefits

The expert from the kenniscentrum EVC mentions based on her experience in the Netherlands that the validation of prior learning benefits sustainable employment, loyalty towards an organisation and awareness of the competences.

Acceptance

The independent German expert remarks that it will be difficult to establish a civil effect in Germany as in the Netherlands. The civil effect refers to the acceptance of the ErVaringsCertificaat as a qualifying document in the Netherlands although it is not a formal qualification.

Realistic and clear publicity work, information initiatives and advisory work are also necessary to make the possibilities of validation known and stimulate acceptance (Expert DQR, Expert kenniscentrum EVC). A clear relation between the validation of non-formal and informal learning and formal qualifications will support the acceptance as well according to the expert of the DQR.

To support acceptance of the validation the involvement of the chambers is necessary in the German context (Independent German expert, Expert DIHK, Expert DQR). The expert of the DQR states that it would be difficult and undesirable to develop a validation system past the existing structures in Germany. The expert refers with existing structures to the (vocational) education system and the chamber system and also to existing validation instruments in Germany.

Quality

A core condition and requirement for a validation system of non-formal and informal learning is quality and with that quality assurance (five of six key-informants). The validation process needs to be executed in a transparent way and requires standards (Expert DQR), a mix of instruments/methods and sufficient underpinning of verified competences (Expert kenniscentrum EVC), clearly defined quality criteria and quality assurance (Independent German expert). The expert from the kenniscentrum EVC remarks that the validation providers are responsible for the quality of the process, but that an accreditation of the providers is needed. She recommends giving the responsibility for the accreditation to one institution instead of several institutions as in the Netherlands. She states that trusting the quality of the validation is essential to its value. Therefore the knowledge centre and the EVC-covenant have been established in the Netherlands (Expert kenniscentrum EVC). The EVC-covenant is not a law, but it binds the providers to some important criteria. But both the expert form the kenniscentrum EVC and the independent German expert are critical about the EVC-covenant in that the criteria were not clearly enough defined, which led too much room for interpretation by the providers and did not lead to the desired quality. Therefore the validation of prior learning in the Netherlands is situated in a transition towards higher quality standards and a more differentiated offer of instruments, according to the expert from the kenniscentrum EVC.

Infrastructure

The existing structures, as mentioned above, need to be considered and involved in the development, implementation and execution of a validation system, because a validation system not only needs validation instruments it also needs resources, for example, personnel, space and money for which the existing structures are a favourable starting point (Expert DQR). The expert of the DQR mentions as an example the ProfilPass and its elaborated system including advisory and counselling centres.

Financing

Another point of discussion is the financing of the validation in Germany (Expert DIHK, Independent German expert). In the Netherlands employers or the individual self finance the validation process (Expert kenniscentrum EVC). There are also tax deduction regulations and development funds per sector available, which can be asked for sponsoring (Expert kenniscentrum EVC, Independent German expert).

Legal aspects

The expert from the DIHK points out that legal aspects need to be discussed as well. The results of a validation might raise expectations on the side of the candidate that cannot be fulfilled. The expert from the DIHK gives the example of expectations to get a pay-raise based on the verified competences. The privacy and data security regulations in Germany are another legal aspect that needs to be considered. The expert from the DIHK gives the example of attitudes of the candidate, which might be interesting for employers, but which the candidate does not want to have stated in the results of the validation.

Responsibilities

The key-informants bring up several considerations that need to be discussed before an implementation of a validation system. The expert from the kenniscentrum EVC emphasises the importance of making choices beforehand and giving thorough thought to the allocation of responsibilities that rise from these choices among the different actors. The choices refer to political considerations as well as attitudinal choices over the validation of non-formal and informal learning.

In the following section a first model for the validation system of non-formal and informal learning in Germany is described on the basis of the results of the literature study and key-informant interviews.

Design and construction 1

In this part a first model of a validation system with its core elements and internal relations is described. With this a preliminary answer to the first and second sub-research question is given. The goal of the validation system is to provide a frame that can be used to evaluate and develop different instruments and efforts for the validation of prior learning in Germany.

A first model for a German validation system

The categories derived from the key-informant interviews have mainly functioned as core elements for a first draft of a model of a validation system for prior learning. The core elements were completed with the information from the literature study. Ideas about the specific definitions of the elements and their relations were documented in an informal logbook. Based on the information from both the key-informant interviews and the literature study a first model of a validation system for non-formal and informal learning was designed. Figure 1 shows this model.

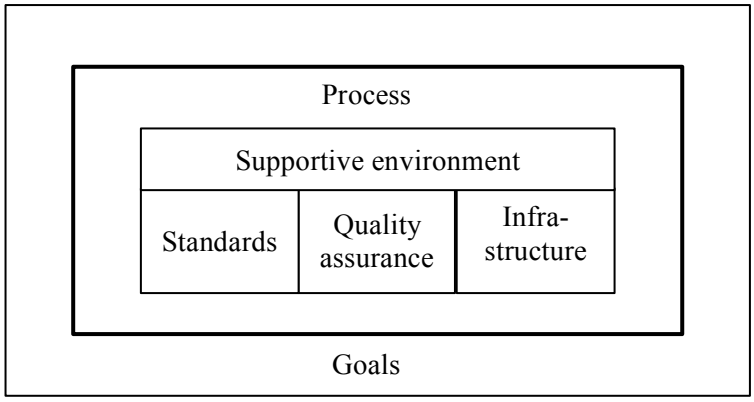

Figure 1. First model validation system Germany

The validation system consists of six core elements, which are shown in figure 1. The single elements are arranged in a way that each element joins borders with the elements it has a relation with. Thus the joint borders of the elements within the model represent a relation between the elements. However, the relation is not specified in the model. The relations can be one or two-sided. It was chosen to go without arrows in the model, because it would have made the model busy and confusing.

A short description of each element and the relations within the model are given in the following subsections to clarify the model. The detailed description of this model can be found in appendix A.

Goals

Four goals have been stated for the validation system: 1) **mobility** (Cedefop, 2009; European Commission, 2012; personal communication, Expert kenwerk, June 11, 2013), 2) **visibility** (Berglund & Andersson, 2012; personal communication, Expert DQR, June 10, 2013), 3) **awareness** and 4) **appreciation** (personal communication, Expert kenniscentrum EVC, June 7, 2013). Mobility means the movement of employees between jobs, organisations and sectors. Visibility refers to the effect of the validation process, that competences are made visible to the candidate, employers and society (Berglund & Andersson, 2012). Creating awareness for the competences of a candidate also creates awareness for the value of the candidate in the labour market. Appreciation refers to the recognition of the candidate's value.

Process

The process is the heart of the validation system and consists of four elements: 1) **counselling** (Joosten-Ten Brinke et al., 2008; personal communication, Expert kenniscentrum EVC, June 7, 2013), 2) **support** (Colardyn & Bjornavold, 2004; Joosten-Ten Brinke et al., 2008; Cleary et al., 2002), 3) **assessment** and 4) **results**. Counselling refers to the advisory tasks in the beginning of the validation process to clarify the candidate's goals and subsequently choosing the fitting instruments for the validation. Support refers to the assistance that is offered to the candidate through out the whole validation process. The element of assessment in this model includes the in literature often used steps of identification, documentation and assessment (judgement) of competences (AKs DQR, 2011; Bohlinger, 2009; Colardyn & Bjornavold, 2004; Joosten-Ten Brinke et al., 2008). The results refer to the validation report that a candidate gets at the end of the process in which the goals, the process and the outcomes are described.

Standards

Standards are the essential core for the validation of (non-formal and informal) learning (Bjornavold & Le Mouillour, 2009). The standards have four core elements: 1) **activities** (Bjornavold & Le Mouillour, 2009), 2) **learning outcomes** (Bjornavold & Le Mouillour, 2009; AK DQR, 2011; EC Proposal, 2012), 3) **competences** (AK DQR, 2011; Gonczi & Hager, 2010) and 4) **performance indicators (**personal communication, Expert kenwerk, June 11, 2013; Gonczi & Hager, 2010). Which standard is used in the validation process is determined by the goal of the candidate and the feasibility for the candidate to fulfil the standard. Activities refer to the actual tasks that are executed in an occupation detached from educational settings (Bjornavold & Le Mouillour, 2009). Learning outcomes articulate what someone knows, understands and what he or she is able to do after a learning process without referring to the way it is learned. Competences combine knowledge, skills and attitudes and refer to the ability to use this combination to handle upcoming situations. Performance indicators are detailed descriptions of behaviour that is shown while accurately executing a task or solving a problem. The use of the performance indicators enhances the measurability of the standard (personal communication, Expert kenwerk, June 11, 2013).

Quality assurance

Quality assurance is an important element of the validation system. To ensure the quality of the system, the process and its results **quality criteria** (Baartman et al., 2006; Joosten-Ten Brinke et al., 2008) need to be formulated and the validation providers need to get an **accreditation** and pass regular **audit** activities (personal communication, Expert kenniscentrum EVC, June 7, 2013).

Infrastructure

The infrastructure needs to ensure the working of the validation process and its quality and provide access, facilities and resources. The infrastructure should include **information- and counselling centres** (AKs DQR, 2011; personal communication, Expert DQR, June 10, 2013), independent **quality assurance institutions** (personal communication, Expert kenniscentrum EVC & Independent German expert, June 7, 2013), a **network** of the actors and a **common basis** to act upon (personal communication, Expert kenniscentrum EVC & Independent German expert, June 7, 2013). The infrastructure for this validation system should evolve from existing well-established structures (personal communication, Expert DQR, June 10, 2013) to support the acceptance of the system and its components. Information- and counselling centres provide facilities and resources in form of

counsellors, assessors, space, materials and expertise and create the (physical) access for candidates to the validation process. Independent quality assurance institutions provide facilities and resources for the accreditation and audit of the validation providers and the quality of the provided validation process. The network of all the actors facilitates the communication and bureaucracy within the validation system and is a resource for discussion and continuous improvement of the validation process and system. The common basis refers to a common understanding and acceptance among the actors of the standards, the core elements of the process and the desired quality. This common basis should be mandatory. An example is the Dutch EVC-covenant.

Supportive environment

The supportive environment creates the needed conditions for the validation system to work. This regards **publicity work** (personal communication, Expert kenniscentrum EVC, June 7, 2013; personal communication, Expert DQR, June 10, 2013), **financing** (personal communication, Expert DIHK, June 17, 2013; personal communication, Independent German expert, June 7, 2013), establishing a **common (legal) basis** and allocating validation results to the **DQR** (personal communication, Expert DQR, June 10, 2013).

Construction and internal relations

The model (Figure 1) is constructed with the idea that all activities and elements of the validation system work directly or indirectly towards the stated goals. That is why the goals are placed around the rest. In the model joint borders of the elements resemble direct links and relations. The validation process is the one element of the model that has a direct relation to the goals and all other elements. The standards form an important shared basis used by assessors in the process. The standards also have a link to the supportive environment, which determines for a great part the structure and purpose of the standards in the common legal basis and they form a starting point for the allocation of validation results to the DQR. They also relate to quality assurance in that they serve quality criteria such as comparability, transparency and consistency. Quality assurance also has a relation to the infrastructure of the validation system, which should provide the resources and facilities for accreditation and audit activities. The infrastructure relates to the supportive environment in that the supportive environment should establish the common legal basis for the actors within the infrastructure. This common basis needs to include the necessity for quality assurance and should state quality criteria to ensure basic quality. This way the supportive environment also relates to the element of quality assurance within the model.

In the following section the evaluation of the first model of the validation system for non-formal and informal learning in Germany is described. The setup for the evaluation is outlined and the results round up the first cycle of this research.

Evaluation and reflection 1

In design-based research three distinctive forms of a developed product (interventions or prototypes) are handled: 1) the intended, which refers to what the product is supposed to do, 2) the implemented, which refers to what the product actually does in practice and 3) the attained, which refers to what are the outcomes (McKenney & Reeves, 2012). The object of evaluation is the model (Figure 1) and the detailed description (appendix A) of the validation system for Germany. The model and its description can be characterised as the intended form of a German validation system. McKenney and Reeves (2012) give six focus areas for an evaluation; soundness, feasibility, local viability, institutionalization, effectiveness and impact. Although all focus areas should be considered from the beginning, it is not advisable to try to test all of them at once (McKenney & Reeves, 2012). It was chosen to evaluate the intended form of the validation system with the focus areas **soundness**, **feasibility** and **institutionalization**. Soundness refers to the ideas underpinning the design and/or how those ideas are instantiated. Feasibility refers to the potential temporal, financial, emotional and human resource costs associated with implementing the product. Institutionalization refers to how the product becomes absorbed within the broader context relating to societal and organisational conditions and support for the innovation (the product). With these focus areas the evaluation considers the

internal structures of the product and tries to collect indicators for the practical use of the validation system.

Expert appraisal

The evaluation was conducted by expert appraisal through semi-structured interviews. The topic list for the interviews is shown in Table 6. To evaluate the validation system with the focus on soundness, topics as completeness and logical and clear structure of the model and its description were included. Additionally, the quality criteria by Baartman et al. (2006) were used to evaluate as well the soundness as the feasibility and institutionalization of the validation system. Although the criteria have a focus on the validation process, some criteria can also be interpreted for the whole validation system, such as fitness for purpose, acceptability, transparency and meaningfulness. Three criteria were not selected because of their unmistakable focus on the validation process and specifically the tasks in the assessment. The description of the validation system could not provide relevant information for these criteria. Nine of the twelve quality criteria of Baartman et al. (2006) were chosen about which the experts were supposed to give their opinion whether and how these criteria are or can be met by the presented validation system.

About the model and description:	
First impression? Comments?	
Complete?	
Clear structure? Logic?	
Quality criteria:	
Fit to goals?	– *fitness for purpose*
Feasible?	– *cost and efficiency*
Measures to prevent bias?	– *fairness*
Stimulate acceptance?	– *acceptability*
Transparency?	– *transparency*
Stimulate candidate's reflection on learning and development?	– *fitness for self-assessment*
Consistent and comparable?	– *comparability, reproducibility of decisions*
Added value?	– *meaningfulness*

Table 6. Topic list expert appraisal

As experts four of the six key-informants from the analysis and exploration phase were contacted as well as additional experts, who were derived from literature or recommended by the key-informants. Three of the contacted four key-informants were willing to take part in the evaluations: the expert from the kenniscentrum EVC, the independent German expert and the expert from the DIHK. The new experts were an expert from the BiBB (Bundesinstitut für Berufliche Bildung [Federal Institute for Vocational Education and Training]), an expert from the IHK-Forschungsstelle Bildung, a Dutch expert well-known in the European area on the topic of validation (Expert EU), an expert from the IES (Institut für Entwicklungsplanung und Strukturforschung [Institute for Developmental Planning and Structure Research], which provides scientific support to the ProfilPass) and an expert from the DIE (Deutsches Institut für Erwachsenenbildung [German Institute for Adult Education], which also provides scientific support to the ProfilPass). In total eight experts were willing to take part in the expert appraisal.

The experts received the model and the detailed description as preparation for the interviews. The reasons for interviews were the same reasons as for the interviews in the analysis and exploration phase (see p. 17). The interviews are executed via Skype, except for one, which was done face-to-face. Each interview was recorded and took approximately one hour. One recording failed. The notes taken during this interview were sent to the expert for approval, which was given. The analysis of the evaluation interviews was done through transcription and categorisation. The results were categorised by the three focus areas: soundness, feasibility and institutionalization and were used to refine the model and the detailed description of the validation system. With this a final answer to the first two sub-research questions has been given.

Results: expert appraisal

From the expert appraisal a lot of positive reactions were collected as well as suggestions for improvement, further development and implementation of the model and the description. In the following the results from the expert appraisal are presented in accordance to the three focus areas of the evaluation.

Soundness

All experts agree with the choice of elements and think that the model is **complete** with these elements. Although the relations of the elements are clear to all experts, the structure of the model is for three experts **too static**. A **round representation** of the validation system would do more justice to the ideas behind it and a different **order of elements** would simplify the representation of the relations within the model (Expert EU). The expert from the IHK-Forschungsstelle Bildung finds the **concept conclusive and coherent**, but is unsure how far this can be operationalized and implemented. One expert (Expert DIHK) describes the model as the reflection of the European developments and guidelines of Cedefop (European Center for the Development of Vocational Training).

The experts address some topics that need more clarification according to them. Two German experts question the term '**validation'** and if there is not a better and more fitting term, especially in the German language (Independent German expert, Expert IES). The terms '**assessment'** and '**process'** as used in the description need to be more clarified to exactly understand what is meant by these terms (Expert kenniscentrum EVC, Expert DIE, Expert BiBB). Confusions come up due to different understandings of the English terms in the mother tongue of the experts (Dutch and German) (expert IHK-Forschungsstelle Bildung). The **phases in the validation process** should be clarified and explicated (Expert DIE). It should also be made clearer that there are **different instruments available** and not just one (EVC) (Expert kenniscentrum EVC). The portfolio is according to one expert (Expert IES) useful for different approaches of validation (summative, formative), which should be included in the description. The goal 'appreciation' was not clearly understood by the experts and needs clarification (Independent German expert, Expert DIHK, Expert EU). Also a more concrete definition of what is meant with '**network'** is wanted (Expert BiBB). Two experts (Expert BiBB, Independent German expert) would like a clearer description of the **roles that the actors play** in the validation system. Regarding the element of the goals one expert (Expert EU) proposes to **use the term objectives** instead of goals.

The expert from the IES points out that it is good that this research takes a step back from the process and focuses more on a **holistic perspective** on the topic (Expert IES). The expert from the IHK-Forschungsstelle Bildung supports this and finds the model **comprehensive** and holistic, but also recognizes an **individualistic approach** in the model, which makes the validation a case-by-case review with the focus on the individual's situation. The EU expert proposes to **include the motivation** of the candidate to better understand how the goals for a validation process evolve. The expert from the DIHK points out that it would be helpful to clarify the **different perspectives** (candidate and/or organisation/employer) on the validation and its goals. One expert finds the model and the description **very abstract** and is not sure on what level (system or candidate) each element is described (Expert DIE). According to two experts (Expert DIE, Expert BiBB) it should be clarified whether the validation process is **on or below the regulatory level**. Regulatory policies refer to all governmental action to regulate economy and society. One expert demands to bring the results of both summative and formative validation processes on a regulatory level (Expert IES). The expert emphasises that **formative results need to be brought to the regulatory level**. Otherwise the question arises why a validation should be executed in the first place.

Feasibility

Although the model and description is seen as complete, coherent and conclusive, some experts are unsure and doubtful about the operationalization, implementation and transfer of the theoretical model into practice (Expert IHK-Forschungsstelle Bildung, Expert DIHK).

According to the expert from the IES, it is very important to provide **low-threshold access** to the validation process and the instruments. In relation to this an **information system** should be integrated that spreads information about validation and makes the process, instruments and possibilities known in public (Expert BiBB).

The expert from the IHK-Forschungsstelle Bildung sees generally the **practical difficulty in defining standards**, so that instruments can be developed that accordingly measure the standard. In theory the standards are coherent and realizable, but in practice it is the question to what extent a standard can be defined that is practical useful (Expert from the IHK-Forschungsstelle Bildung). The expert from the DIHK remarks that thoughts need to be given to the question what is worthy to validate. The expert refers with this to the attitudes, where he differentiates work attitudes (e.g. someone works hard) and personal attitudes (e.g. someone is sexist). It needs to be determined **what is relevant and measurable** for a validation according to the expert from the DIHK. In the interview with the expert from the IHK-Forschungsstelle Bildung the interviewer suggested to use the **training regulations as basis** for the development of standards and the expert agrees and adds that the advanced vocational training regulations (Weiterbildungsverordnung) could be used as well. The EU expert mentions that **language** is an important aspect to make the standards understandable for the candidates. Using learning outcomes supports this according to the EU expert.

In the frame of quality assurance, acceptance and trust in the validation system the independent German expert proposes a sort of **quality seal** for the validation process. But this quality seal needs to be trusted as well; otherwise it has no value (Expert IHK-Forschungsstelle Bildung). The expert from the IES asks in relation to this where to settle the **accreditation** of validation providers. The accreditation must be independent and may not be 'a licence to money printing' (Expert IES).

Some experts made concrete suggestions about quality assurance. Three experts point to the qualification, training and **professionalization of counsellors and assessors** as necessary part of quality assurance (Expert IES, Expert IHK-Forschungsstelle Bildung, Independent German expert). According to the expert from the IHK-Forschungsstelle Bildung, the **assessor should fulfil criteria** such as being a professional expert on the subject matter, being able of self-reflection and being unprejudiced against the candidate. The expert addresses the **importance and difficulty of the gut feeling** of the assessor. This gut feeling can and should not be neglected in qualitative assessments, but it bears the difficulty of specifying it (Expert IHK-Forschungsstelle Bildung). That is why assessors should be trained, especially in reflecting on the own gut feeling to specify where their judgement comes from (Expert IHK-Forschungsstelle Bildung). The expert suggests **using two assessors** to enhance validity, but she admits, based on experiences with IHK FOSA (see p. 13), that it is **difficult to find assessors.** Furthermore, the expert gives **criteria for the counsellor**, who should be systematically and broad oriented, be more than just an informant to the candidate, be social and have therapeutic competences available. The expert thinks that it will be difficult to create and guarantee such a professionalization of assessors and counsellors, but it would definitely serve the quality of the validation.

For the overall quality of the validation system one expert suggests a **dynamic quality assurance system** to support continuous improvement of the validation of non-formal and informal learning (Expert DIHK). This dynamic quality assurance is meant in addition to accreditation and audit activities.

Institutionalization

The independent German expert is unsure about the acceptance of the validation of prior learning, because he already sees **difficulties in the comparability** and the acceptance of regular vocational training qualifications in Germany. While accredited vocational training experiences a high acceptance on the labour market, this is not per se the case with vocational training in full-time vocational schools (Independent German expert). The expert from the DIHK doubts that a candidate validated with the ProfilPass (described later on, p. X) would be successful in particular sectors of the labour market to find a job. Also the independent German expert remarks the desire for formal qualifications in the labour market. The independent German expert emphasises that a **civil effect** needs to be developed, which means that all actors, the labour market and society accept the validation of non-formal and informal learning. The validation should lead towards an **accepted recognition**, which is not necessarily a formal qualification (Expert IES). The results need to be accepted in the labour market (Independent German expert) and it is necessary that the system and the process are transparent (Expert IES). Especially, transparency is mentioned as an important quality criterion (Expert IES, Expert from the IHK-Forschungsstelle Bildung). Overall the **quality criteria** of Baartman et al. (2006) are seen as **important and relevant** and should be considered in the quality

assurance (Expert IES). All experts emphasise **the importance of quality assurance.** This is what supports to acceptance of and trust in the validation system and its results (Expert kenniscentrum EVC, Expert IES).

In relation to the civil effect and acceptance, the expert from the DIHK remarks that the actual transfer and implementation of the theory (the model) determines the actual value of the validation and that the context plays a crucial role at this. Two experts point out that there are **factors** such as the economic cycle, high unemployment rates or skilled worker shortage, which cannot be influenced by the involved parties. But these factors will have a strong influence on the acceptance of the validation system and its results (Expert kenniscentrum EVC, Expert IES).

The Expert from the IES predicts that the development of a validation system, methods and instruments in Germany will take a long time. Development should focus on

- **Reconcilement between open self-evaluation** (formative approach) **and requirements** (standards) (summative approach),
- **Forms of documentation**,
- **Judgement** in the process,
- **Competences of counsellors and assessors** and
- **Formulation of competence-oriented standards**.

The expert from the kenniscentrum EVC emphasises that there are a lot of choices need to be made before transferring and implementing the validation system.

The next chapter describes the second cycle of the research and specifies the methods and results in the stages of analysis and exploration, design and construction and evaluation and reflection.

Cycle 2

This chapter describes the second cycle of this research with the stages of analysis and exploration, design and construction and evaluation and reflection. Under analysis and exploration the results of the expert appraisal are used to describe to what extent the model and description of the validation system is adapted. Under design and construction the final model of the validation system is presented and described in detail. Under evaluation and reflection the validation system is applied to existing instruments to evaluate the instruments and the validation system at the same time.

Analysis and exploration 2

Based on the expert appraisal the model of the validation system and the description is adapted. The changes in the model and the description concern the structure of the model, a better definition of the elements and the explanation and clarification of terms.

In accordance to the recommendations of the experts the model is given a round shape. The structure of the model is adapted to an onion-like shape with the core elements as layers. The layers represent the broader growing context from the centre to the outer layer. Each inner layer is embedded in the outer one. The heart of the final model is the validation process. In the first description of the validation system the process had already been named as the heart of the validation system, but the model (Figure 1) does not show this position of the process within the validation system. In the model, the validation process is surrounded by the layer of the goals. It is chosen to stay with the term goals, as objectives refer to rather specific targets. The goals are surrounded by the layer of quality assurance and infrastructure. Quality assurance is intertwined with the infrastructure, because the infrastructure provides most of the quality assurance, but due to the great importance of quality assurance it is still mentioned as an element on its own. The supportive environment then surrounds the infrastructure and completes the model.

With the changes to the structure of the model also the definitions of the elements are adapted. While in the first model the standards are a distinct element of the validation system, in the final model the standards are integrated in the element of the validation process. This is done in relation to the introduction of the summative, formative and combined approaches to validation processes. Standards are more relevant for summative approaches than for formative approaches and therefore can better be described within the element of the validation process than an element of the validation system. The term ‘activities’ in the standards is changed to ‘work processes’, because it fits better to the work context. The four elements of the validation process from the first model are changed into and are described in three phases with the important element of support present in every phase in the validation process. The terms ‘process’ and ‘assessment’ are explained in more detail for a better understanding and distinction of the terms.

The infrastructure is expanded with on the one hand quality assurance including continuous improvement and on the other hand an information- and counselling-system including publicity work. The ‘network’ of actors is specified and the common basis described in the first model is changed into common understanding.

The supportive environment is the consolidation of the candidates, the labour market and society. It carries the common understanding and vision of lifelong learning and the validation of non-formal and informal learning. This is where the civil effect is supposed to happen.

The next subsection gives a detailed description of the final model of the validation system for non-formal and informal learning in Germany.

Design and construction 2

In the second design and construction phase the model of the validation system is redesigned, adapted and improved. The following sub-sections illustrate and describe the core elements and their relations within the final model of the validation system for non-formal and informal learning in detail.

Final model for a validation system for non-formal and informal learning in Germany

The validation system for non-formal and informal learning for Germany consists of several elements, which were derived from key-informant interviews, literature study and expert appraisal. Figure 2 shows the final model of the validation system with its core elements. Although it is not shown in the model, the validation system is focussed on the individual candidate.

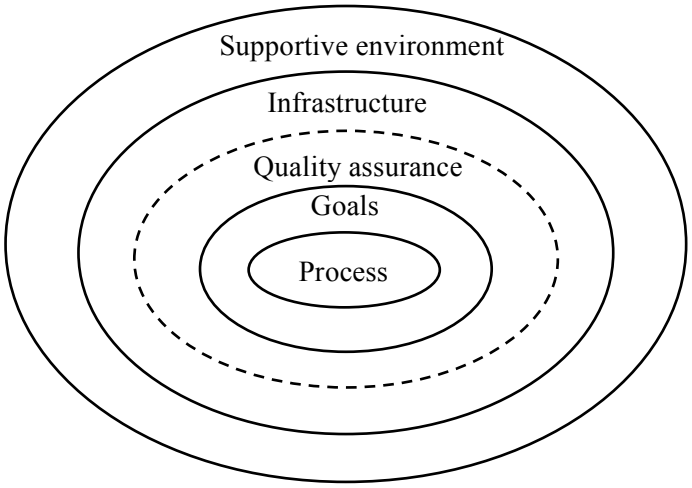

Figure 2. Model of the validation system

The description of the system starts with a specification of the process, which is the heart of the system. For the process standards can be an important basis, which are therefore included in this part. Afterwards, the goals for the system and the validation process are clarified. Quality assurance and infrastructure are intertwining elements, which is visualised by the dashed line in the model. Both elements are detailed next. The supportive environment is described as the carrying element of the validation system.

Process

The validation process is the heart of the validation system. In this system the term process is understood more broadly and it covers more than only the steps of identification, documentation, assessment and certification as described in most literature (AKs DQR, 2011; Colardyn & Bjornavold, 2004; Duvekot, 2009; Joosten-Ten Brinke et al., 2008). The validation process described here comprises several phases that are needed to provide a high-quality validation process. These phases are **counselling**, **assessment** and **reporting results**. These terms capture the overall process of validation in a comprehensive way. Counselling, assessment and reporting results describe the whole process around identification, documentation, assessment and certification of competences. The phase of assessment described in this validation system is understood in a broad way and comprises three of the four steps from the literature: identification, documentation and assessment (in literature understood as judgement). The step of certification is included in the reporting results phase. **Support** is an additional important element of the process and is present during every phase in the process. Figure 3 shows the relevant phases and steps within the validation process as understood in this validation system.

To provide counselling and support the candidate gets a counsellor to his side that advises and supports the candidate through out the whole process. During the assessment an independent assessor validates the candidate and accounts for the results of the process. The validation process requires a high level of responsibility of the candidate (Joosten-Ten Brinke et al., 2008). That is why proper **support** should be provided during the whole validation process (Colardyn & Bjornavold, 2004).

Support is an all-embracing element of the validation process. It would be ideal for the candidate to have one counsellor, who stays with him or her through the whole process. The counsellor is the contact person for the candidate regarding questions, counselling and advice and watches the whole process to stimulate the candidate or prevent delay. The counsellor is supposed to give a clear and transparent overview of the validation process and structure of the support that he or she offers (Cleary et al., 2002). To provide proper support the counsellor should fulfil some criteria such as being knowledgeable of different validation instruments and methods and their advantages and disadvantages, being (moderately) knowledgeable of the working field of the candidate (personal communication, Expert IHK-Forschungsstelle Bildung, October 21, 2013; personal communication, Libereaux, October 8, 2013). The candidate and counsellor built a relationship, which requires the counsellor to be sensitised for the different objectives of validation and the candidate's needs (personal communication, Independent German expert, October 7, 2013; Expert IHK-Forschungsstelle Bildung, October 21, 2013).

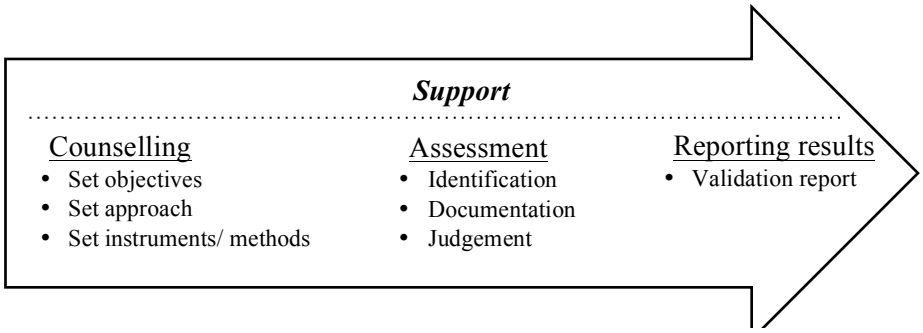

Figure 3. Validation process

The validation process should be mostly standardised, thus the same for every candidate, but it also needs to leave room to be responsive to individual needs and purposes. The three main phases of the process (see above) are the same for every candidate. But depending on the situation and goals of the candidate the assessment and its results can be adapted to the candidate's needs. The process should therefore start with sophisticated **counselling** including a needs analysis of the candidate. The candidate needs to be informed what validation is (and what it is not), what it can mean for him or her, how the process looks like, what the candidate can expect and what is expected of him or her (Joosten-Ten Brinke et al., 2008). This should lead to the needs analysis of the candidate to determine the goal for the validation process. The expert from the kenniscentrum EVC (personal communication, June 7, 2013) states the emphasis in the beginning of a validation process should be on the identification of the career goal and subsequently in the determination of fitting instruments and methods. In literature, two approaches of validation procedures are described, which are separately theorised, but which are not mutually exclusive (Bjornavold & Le Mouillour, 2009). The first kind is a summative approach to validation that determines if a candidate fulfils a certain standard. The second kind is called the formative approach, which determines what a candidate's competences are with an open-ended character (thus without referring to a standard). The summative approach is more application-oriented, while formative validation has a more developmental orientation. Validation instruments and methods can imply either a summative or a formative approach or a combination of both. The candidate's situation and goals for the validation process determine which kind of validation process should be used. The counsellor advises the candidate in the approach of the validation process (summative, formative or a combination) and, if necessary, advises a standard (see p. 32) that will form the basis for the assessment and the fitting instruments in a summative or combined approach.

After choosing a fitting instrument for the candidate the phase of **assessment** comprises three steps: 1) identification, 2) documentation and 3) judgement. The assessment should always combine two or more methods to collect evidence for competences (Colardyn & Bjornavold, 2004; personal communication, Expert kenniscentrum EVC, June 7, 2013). The methods relate to the approach that is chosen for the validation process. A summative approach requires standards against which the competences of the candidate can be assessed. The methods should be chosen in a way that they cover the standards (personal communication, Expert kenniscentrum EVC, June 7, 2013). This does not mean that every method necessarily needs to cover the whole standard, but that together the methods

need to cover all aspects of the standard and to enable a grounded judgement. The characteristics of the standards are described later on in detail (see p. 32). A formative approach does not require standards and leaves room to focus even more on the individual learning biography of a candidate. Depending on the approach a method identifies competences in relation to the standards or focuses more on self-exploration. There are a variety of instruments and methods to choose from. They all slightly differ in their focus on, for example, target groups or objectives. The validation system should provide an infrastructure that enables the integration of different instruments and methods to offer suitable instruments to the variety of individual needs and goals. The instruments that are used mostly in validation processes, whether summative or formative, are portfolios and work or performance demonstrations (Andersson et al., 2004). Also criterion-oriented interviews, self-evaluation methods or 360° feedbacks are often included in validation instruments. The portfolio is a well-established instrument in validation processes all over the world (Bjornavold, 2001). The portfolio is an instrument that fits both a summative and a formative approach to a validation process (personal communication, Expert IES, October 18, 2013) and should therefore be a standard instrument. The portfolio, especially when including some sort of self-assessment, supports particularly the goals of visibility and awareness about the candidate's own competences and capabilities (see *Goals*, p. 32).

The counsellor supports the candidate during the assessment phase through watching the progress and controlling the quality of the evidence collected through the different methods. Joosten-Ten Brinke et al. (2008) describe seven criteria the evidence should fulfil to ensure a strong underpinning of the validation results (more under *Infrastructure and Quality assurance,* p. 33). That is why the counsellor requires at least moderate understanding of the occupational context a summative validation process is referring to. The counsellor needs this understanding of the occupational context to control whether collected evidence is suitable for a chosen occupational standard. The evidence is then handed over to an independent assessor, who is a subject-matter expert. The assessor determines whether competences have been proven sufficiently according to a standard and writes the validation report (see later on). In a formative validation process it is more relevant that the counsellor stimulates the candidate to detect what he or she has learned throughout his or her (working) life. It is possible that not an assessor but the counsellor writes the validation report, if the validation process does not refer to an occupational standard where the subject-matter expertise is needed. The important thing is that in a validation process with a summative approach the counsellor and the assessor of the candidate are two different persons (personal communication, Expert kenniscentrum EVC, June 7, 2013). Keeping the counsellor and the assessor separate serves the objectivity of the assessment. In literature, several quality criteria are formulated for assessment methods of non-formal and informal learning (see more under *Infrastructure and quality assurance,* p. 33).

The **results** of the validation process are reported in the validation report that gives a description of the goals, the process and the validation outcomes. Quality criteria should be established, which the validation report needs to fulfil (see more under *Infrastructure and quality assurance*, p. 33). The validation report should have a positive tone and focus on what the candidate is competent in rather than emphasizing gaps (Duvekot, 2009; personal communication, Libereaux, May, 2013). This means that competences and learning outcomes that are shown on a sufficient level will be described and underpinned by the collected evidence. The validation report differs according to whether a summative, formative or combined approach has been applied. The different approaches are expressed in the validation report, for example, through referring to a standard or just giving a description of the validated competences. When referring to a standard competences and learning outcomes that are not achieved will be mentioned in the report but there will be no detailed description or argumentation why. A short description of evidence and argumentation why a standard is achieved needs to be given. The report should also include recommendations for the candidate what he or she can do with the validation report. These recommendations should refer to the initial goals of the candidate and could give the candidate the advice to follow specific training courses or to apply for a formal qualification. In the agenda of lifelong learning the validation report should stimulate further development of and highlight chances for the candidate.

Standards

Standards are the essential core for a summative validation of (non-formal and informal) learning (Bjornavold & Le Mouillour, 2009). Which standard is used in the validation process is determined by the goals of the candidate and the feasibility for the candidate to fulfil the standard. The standards have four core elements: 1) **work processes**, 2) **learning outcomes**, 3) **competences** and 4) **performance indicators**.

Standards should refer to the **work processes** executed in an occupation and can be based on the qualification frameworks for the formal vocational educational training (Ausbildungsrahmenplan) or the advanced vocational training regulations (Weiterbildungsverordnung) (personal communication, Expert IHK-Forschungsstelle Bildung, October 21, 2013; personal communication, Expert kenwerk, June 11, 2013). Vocational training has a broad structure to give insights in all aspects of the branch in question and to provide a good basis for employment and further development. Jobs taken after the vocational training are often more specialised. For this reason the advanced vocational training regulations could be more useful as basis. It is relevant to use the work processes that are actually executed in occupations and detach them from the vocational educational settings to formulate the standards (Bjornavold & Le Mouillour, 2009). This way experience gained over years can be considered in the standards. The work processes in the standards should be formulated in terms of **learning outcomes** which articulate what someone knows, understands and what he or she is able to do after a learning process without referring to the way it is learned (AK DQR, 2011; Bjornavold & Le Mouillour, 2009; European Commission, 2012). Formulating standards in terms of learning outcomes makes it possible to separate the way of learning, whether it is formal, non-formal or informal, from the outcome of the learning process. Learning outcomes are defined in knowledge, skills and competences (Council of the European Union, 2012). Knowledge is a collection of facts, concepts, principles, theories and practice in a field of study or work as a result of learning and understanding (AK DQR, 2011). Skills refer to the ability to apply knowledge and use know-how to complete tasks and solve problems (AK DQR, 2011). **Competences** combine knowledge, skills and attitudes and refer to the ability to use this combination to handle upcoming situations. The AK DQR (2011) understands competences as comprehensive action skills. In recent years more and more countries became committed to competence-based education and training (Gonczi & Hager, 2010). Competences can be defined in educational as well as in vocational contexts. The validation of non-formal and informal learning wants to focus on competences developed through work and life experience. Therefore competences need to be seen in the relevant occupational context. Each learning outcome will get accompanying competences that are relevant for that particular learning outcome. A comprehensive list of competences should be formulated in addition to the standards. In the standards the relevant competences are chosen from the list and described in the occupational contexts referring to the activities and learning outcomes. The list gives a uniform basic understanding of the single competences and can also be used for validation process with a formative or combined approach, where an occupational standard could not be determined or is not desired by the candidate.

For the competences referring to specific learning outcomes **performance indicators** need to be formulated to make the standards measurable (personal communication, Expert kenwerk, June 11, 2013). Performance indicators are detailed descriptions of behaviour that is shown while accurately applying competences to execute a task or solve a problem. Gonczi and Hager (2010) state that the assessment of competences necessarily is based on inference from samples of performance, because of the not observable aspects of competences, e.g. abilities and attitudes. The authors state that the not observable aspects are only assessed due to inference based on several performance observations. For this reason, the performance indicators need to be very detailed and it also suggests the use of different methods for the collection of evidence (see above). Performance indicators are relevant to make the standard measurable as they minimize the room for interpretation of the competences and provide a common and detailed basis for judgement whether someone is able and competent to adequately execute the described activities. Assessors and counsellors need to be trained in understanding, using and interpreting the standards and their elements to achieve consistency in the validation process (personal communication, Expert kenwerk, June 11, 2013).

Goals

The main goal for the validation system is the **visibility** of competences. Visibility refers to the effect of the validation process that competences become visible to the candidate, employers and society (Berglund & Andersson, 2012; Colardyn & Bjornavold, 2004). Besides the main goal, the validation process is able to service different subsequent goals, which depend on the motives and motivation of the candidate (personal communication, Expert EU, October 2, 2013). On the one hand the candidate's motivation for the validation process can be intrinsic, thus coming from the candidate self. On the other hand, the candidate can be extrinsically motivated, for example, by his or her employer's motives. Normally a combination of these two types of motivation with an advance towards one of them is applicable. Thus both intrinsic and extrinsic motivations determine the subsequent goals that are aimed at with the validation process. It is important to understand that the different types of motivation give different weight to the goals for the candidate, employer or society. Additionally, the candidate's motivation, whether more intrinsic or extrinsic, determines a development- or application-orientation for the validation process and with that a summative, formative or combined approach (see p. 31).

Possible subsequent goals to visibility are **awareness** and **utilisation** of the competences or **empowerment**, **appreciation** and **mobility** of the candidate (Figure 4). Although the candidate might have the motive and motivation to gain a formal qualification, it is not listed here as a goal because the author understands a formal qualification as an objective or measure to achieve the here mentioned goals.

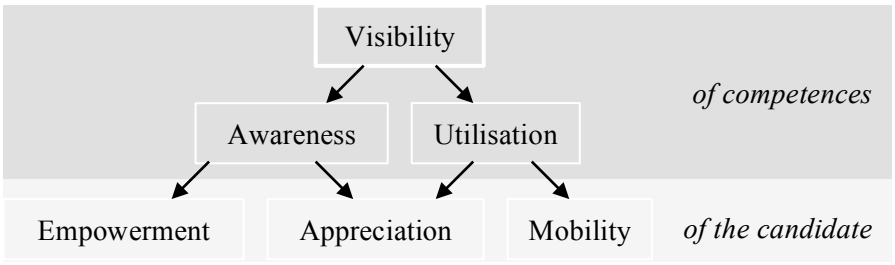

Figure 4. Main and subsequent goals

By making competences visible that have been learned and developed over the years, candidates and organisations develop **awareness** for which competences are available. Thus through a validation process not only the competences become visible but also the candidate's value for the labour market is brought to mind. The expert from the kenniscentrum EVC (personal communication, June 7, 2013) emphasises that it is the goal of a validation process to reinforce the value of a candidate for the labour market. This enables candidates and organisations to **utilise** competences more effectively (Berglund & Andersson, 2012; European Commission, 2012; personal communication, Expert DQR, June 10, 2013). An improved utilisation of competences also encourages greater **mobility** of the candidate (Cedefop, 2009; European Commission, 2012). Mobility means the movement of employees within or between occupations, organisations and sectors. By making competences visible and becoming aware of them the mobility of the labour supply is stimulated, which leads to better synchronisation with the labour market demand (European Commission, 2012). Through visibility and awareness of competences also the self-confidence of the candidate is enhanced, which refers to an **empowerment** of the candidate. The candidate is in a better position to make decisions regarding his or her development and career (Duvekot, 2009), which might also lead to a greater willingness to be mobile in the labour market. Candidates experience **appreciation** for the developed competences through the validation process (personal communication, Libereaux, June, 2013). Appreciation of the candidate can be shown if the candidate's competences are utilised more effectively.

To ultimately reach the subsequent goals, quality of the process and results need to be assured, an infrastructure that is transparent and accessible needs to be provided and a supportive environment that carries and spreads a mentality of acceptance and appreciation needs to be established.

Infrastructure and Quality assurance

The infrastructure is the backbone of this validation system and has to ensure the working of the validation process, its quality and coordination of different validation instruments. To support the acceptance of the system and its components the infrastructure should evolve from existing well-established structures (personal communication, Expert DQR, June 10, 2013). Quality assurance is a main issue in the validation system and is mentioned as distinct element in the model (Figure 2), although it is embedded in the infrastructure. The infrastructure needs to provide facilities and resources to make the validation process accessible for candidates and to ensure and improve the quality of the validation process. The infrastructure should include a **quality assurance system**, an **information- and counselling-system**, a **network** of the responsible actors and a **common understanding** to act upon.

Quality assurance

Quality assurance is, as already mentioned, an important part because the quality of the validation system and process determines to a high degree the acceptance of its results (personal communication, Expert kenniscentrum EVC, October 16, 2013; personal communication, Expert, Expert IES, October 18, 2013). A **quality assurance system** needs to be established that integrates **quality criteria** for the validation process and providers, independent institutions that carry out **accreditation** and **audit** activities at the validation providers and **continuous improvement** of the quality of the components of the validation system.

As basis for the quality assurance system **quality criteria** are necessary. These quality criteria need to be formulated for the validation process and validation provider need to comply with them. The criteria form the basis to judge the quality of specific aspects and the overall quality of the system. The validation process should fulfil specific criteria that relate to the different elements of the process. The twelve criteria of Baartman et al. (2006) are a valuable basis to design and implement a good quality validation process. These criteria need to be considered, when implementing the validation system in Germany (personal communication, Expert IES, October 18, 2013).

While the criteria from Baartman et al. (2006) refer to the whole process, a closer look should be taken to its several phases to determine the quality within the process. The assessment is the heart of the validation process and for its components quality criteria should be formulated. The instruments to identify and document evidence should consider validity and reliability and account for them in one form or another (as container concept or split up, see p. 17). Also objectivity and consistency should be considered as criteria for the identification, documentation and judgement of the evidence. The use of different methods to identify and document evidence can be stated as quality criterion itself. Joosten-Ten Brinke et al. (2008) give seven criteria for the collected evidence: 1) relevant, 2) transferable, 3) on an appropriate level according to the standard, 4) valid, 5) authentic, 6) recent and 7) sufficient.

The assessor and the counsellor are also part of the process and should fulfil quality criteria. The assessor and the counsellor should be two different persons and the assessor should have no personal interest in the validation result of the candidate (Cedefop, 2009). The assessor need to be skilled, experienced and of good knowledge of the working field he or she wants to be an assessor for (Cedefop, 2009; personal communication, Expert IHK-Forschungsstelle Bildung, October 21, 2013). Additional knowledge and experience in (formal/practice) assessments in the relevant field of work are desirable. Assessors and counsellors need to be trained in understanding, using and interpreting standards and their elements to achieve consistency in summative validation processes (personal communication, Expert kenwerk, June 11, 2013). The counsellor should be, as already mentioned above, knowledgeable of the different validation instruments and methods to be able to properly advise the candidate. Also moderate knowledge of the working field of the candidate is preferable to place the counsellor in a better position to advise and support the candidate (personal communication, Libereaux, October 8, 2013; personal communication, Expert IHK-Forschungsstelle Bildung, October 21, 2013). In addition to that should the counsellor be skilled and sensitised to advise the candidate according to his or her different objectives and needs (personal communication, Independent German expert, October 7, 2013).

A summative validation process is based on standards. The use of standards itself serves the quality of the validation process regarding criteria such as comparability, consistency, transparency,

fairness and trust (Baartman et al., 2006; Bjornavold & Le Mouillour, 2009). But the standards self also need to fulfil quality criteria. As described above, standards should be stated in work processes (Bjornavold & Le Mouillour, 2009), learning outcomes (Bjornavold & Le Mouillour, 2009; European Commission, 2012), competences (Bjornavold & Le Mouillour 2009, Gonczi & Hager 2010) and performance indicators (Gonczi & Hager, 2010). These different elements ensure a detailed description of the standards and make them measurable.

The providers of validation processes need to assure that the above-mentioned criteria are met. To ensure that providers fulfil this duty **independent institutions** should provide facilities and resources for the **accreditation** of the validation providers and **audit** the quality of the provided validation process on a regular basis. Providers should be accredited to ensure that sufficient expertise for the validation is available and that the provider acts and validates according to the agreed quality criteria. A regular audit should be executed to confirm the quality of the provider and stimulate improvement and development. The audit can also be used to refresh the accreditation on a regular basis.

The infrastructure should also provide facilities and resources to **stimulate continuous improvement** of the quality and the working of the validation system (personal communication, Expert DIHK, October 7, 2013). Insights gained from experiences with different instruments, methods, candidates and work fields should be used to improve and further develop the validation system and its components.

Infrastructure

Information about the possibilities of validation, the idea behind it, advantages, chances and possibilities for the candidates and organisations needs to be spread and access to this information and the validation process needs to be provided. For this reason an **information- and counselling-system** needs to be established. This system provides the public, candidates and organisations with information about the procedure. **Publicity work** is included in this information-system as well as **information- and counselling-centres** that interested people can approach and inform themselves about what validation means, how to start a procedure, etc. The difference between information- and counselling-centres is that information-centres can only provide information about the validation of non-formal and informal learning, but they do not provide the whole validation process. The counselling-centres on the other hand represent the providers of the validation process and can provide, next to first information about the validation process and its possibilities, the whole process. The information- and counselling centres provide the (physical) access for candidates to the validation process (AKs DQR, 2011). The counselling centres are the field offices of the validation providers and provide facilities and resources in form of counsellors, assessors, space, materials and expertise.

In such a system as described here, a lot of different actors come to play. These actors also form an important part of the infrastructure as the responsibilities for the good working and quality of the validation of non-formal and informal learning are spread among them. The concrete **allocation of responsibilities** is a main issue that needs to be discussed before the implementation (personal communication, Expert kenniscentrum EVC, June 7, 2013). On a related note is the **financing** of the validation process an issue for discussion among the actors (personal communication, Expert DIHK, June 17, 2013; personal communication, Expert IHK-Forschungsstelle Bildung, October 21, 2013). The actors in the validation system are, for example, governmental parties, labour market representatives, social partners, vocational education and training institutions and validation providers. These actors should collaborate and form a **network** to comply with their responsibilities and provide resources, facilitate the communication and bureaucracy within the validation system and to be a source for discussion and continuous improvement.

Finally, the infrastructure needs to provide a **common understanding** of the validation of non-formal and informal learning. This common understanding should be clear to all actors and institutions within the validation system. It should comprise the vision on lifelong learning and that the individual development forms the core of the validation system. On a related note, the rights that can be drawn from the validation results and the accessibility to (vocational) education and training courses and institutions to support and stimulate further development of the candidate within and outside of organisations need to be discussed. The common understanding should also agree upon the core elements of the process and the quality criteria. The common understanding can be stipulated in a

kind of contract among the actors. The Dutch EVC covenant is an example for this. Whether a statutory basis is necessary needs to be discussed.

Supportive environment

Surrounding all the components of the validation system described above is the supportive environment. It is the context in which all the activities take place. A common understanding (see above) and **vision of lifelong learning and the validation** of non-formal and informal learning needs to be carried by the supportive environment to create the acceptance of the validation process and in particular its results. This is where the **civil effect** is supposed to happen. The supportive environment consolidates the German society, labour market and candidates that need to accept and cherish learning no matter where it comes from. The supportive environment needs to carry a perspective that understands the German society as a learning society in which knowledge, ability and competence are central. The supportive environment should value the diversity of learning and development histories of individuals. The development of the individual is relevant in every phase of the working life and the validation system can support further learning and development.

In the following section the setup and results of the evaluation of the final model of a validation system for non-formal and informal learning is described. With this second evaluation and reflection phase the second cycle is complete.

Evaluation and reflection 2

In the second evaluation and reflection the final validation system for non-formal and informal learning is used to answer the third sub-research question of how the validation system can be used as guideline for the development of validation instruments. The method, results and conclusions are described in the following sub-sections.

Application of the validation system to existing instruments

The validation system is hold against three existing instruments in Germany to show how the validation system can be applied to instruments to evaluate their potential of validating non-formal and informal learning. The used instruments are: 1) ProfilPass, 2) Externenprüfung and 3) Lernstück-Verfahren. The ProfilPass was often mentioned during the interviews and the Externenprüfung came forth from the literature study. The Lernstück-Verfahren was found later on during an Internet search and is included in this evaluation because of its combined (formative and summative) validation approach. Other instruments mentioned during the interviews were the ANKOM-initiative and the EuroPass. The ANKOM-initiative is excluded from this evaluation, because this initiative refers to a great variety of validation instruments used for admission purposes at higher education institutions. This great variety of validation instruments in the ANKOM-initiative is a result of the sovereignty of the Federal states in education. The EuroPass is excluded because of its focus on the mobility between European countries, which fits to a lesser extent to the focus of this research.

While the first evaluation (see *Evaluation and reflection 1*, p. 23) can be interpreted as ‘research on the intervention’, the second evaluation of the validation system can be characterised as ‘research through the intervention’ as McKenney and Reeves (2012) describe it. The evaluation of the final validation system has two intentions. The first is to evaluate the potential of the three instruments to validate non-formal and informal learning based on the validation system and give suggestions and recommendations for the instruments. The second intention is to check the validation system where it needs improvements and to give suggestions and recommendations about it as well. Thus through the application of the validation system to the three instruments not only the instruments are evaluated, but also the validation system itself.

The evaluation of the instruments through the validation system is based on document analysis. The element of the supportive environment as described in the validation system is strongly related to the acceptance of the instruments and the opinions of the stakeholders, which are not covered with this method. The instruments are evaluated through determining whether the elements of the validation system are recognizable and how the elements are implemented. Reflecting on this application, improvement suggestions and recommendations for the instruments are presented and suggestions for improvement of the validation system are summarized as lessons learned.

In the following each instrument is shortly described, followed by the application of the validation system to each instrument. After each application a short conclusion and the lesson learned are described including suggestions and recommendations for the instruments and the validation system.

ProfilPass

Description and characteristics

The ProfilPass focuses on the competences of the individual and stimulates the reflection on the individual's own doing and derives skills and competences from that. The idea of the ProfilPass is to make competences visible to stimulate the self-direction of the individual in his or her personal private or professional learning and development (DIE, 2004). A certification is not implicated. The ProfilPass has a clear development orientation and is open-ended. The goals of the ProfilPass are the determination of competences and linking them to the individual's occupational orientation and choice of job, personal development, societal participation, self-awareness, willingness to change and further learning.

The procedure of the ProfilPass consists of four parts. The first part is focused on the individual's life and wants to create an overview of (work) experiences. The second part takes a closer look at the experience areas and documents activities. The experiences and activities are found in the following areas: hobbies and interests, household and family, school, vocational educational training, military service or voluntary social year, working life, occupations and internships, political or social engagement, voluntary work and special living situations (Seidel, 2010). In this second part of the ProfilPass, the activities are named, described, specified and valued. The specification means that skills and competences are deduced from the description and that personal characteristics are added. Skills and competences are then valued on four levels: A, B, C1 and C2. In the third part of the ProfilPass, stock is taking and a positive summary of competences is given. The individual gets a proof of the competences. This is not intended to be a certification of the competences. The last part of the ProfilPass focuses on the goals of the individual and the following steps. The providers of the ProfilPass also offer what is called the ProfilPass Plus, which refers to additional tips for application and other relevant information (Seidel, 2010).

The consultation process within the ProfilPass has seven phases for the consultant: 1) the preparation, 2) start phase, 3) acquisition phase, 4) taking stock phase, 5) development phase, 6) finishing phase and 7) the follow-up. The preparation focuses on the development of implementation scenarios and the design of concrete consulting situations. In the start phase the individual gets an intake consultation wherein the consulting engagement is clarified, the documents for the ProfilPass are handed over and an introduction to the process is given. In the acquisition phase the individual compiles biographical elements. He or she is supported by this self-exploration. In the next phase, the individual is taking stock of the competences and determines his or her strengths. The development phase focuses on the formulation of development goals for the individual and the establishment of an action plan. In the finishing phase the individual gets the proof of competences established during the process and an evaluation of the consulting engagement is executed. In the follow-up an overview of successful and problematic elements of the consultation process is created and consequences for future consulting situations are determined.

The consulting in the ProfilPass process is built upon several didactical principles, which are transparency of the procedure, individual/participant orientation, support by self-direction and self-organisation, consulting during all parts of the ProfilPass, competence orientation, reflection orientation, learning interests orientation and assurance of learning and biographical continuity.

The system of the ProfilPass consists of several actors, which are a large group of co-operation partners, dialogue centres and multipliers, consultants and instructors and individual participants (Passnutzer). Underlying this system is a compendium for quality management.

Application of the validation system to the ProfilPass

The ProfilPass represents a formative approach to validation (Annen & Bretschneider, 2009). The process within the ProfilPass system is similar to the one described in the validation system. The similarities become apparent in the competence orientation, portfolio orientation, focus on the

individual and emphasizing the counselling and support of the candidate. As subject of the assessment the ProfilPass uses as well competences and a portfolio to collect and document the evidence of competences. The individual candidate is put to the centre stage in both the ProfilPass and the validation system and the importance of counselling and supporting the candidate throughout the process is recognized. The ProfilPass uses no pre-determined standards. Although the ProfilPass has a competence orientation, there is no competence framework available for the ProfilPass candidate. This illustrates the formative approach of the ProfilPass. The candidate has to derive and determine his or her own competences from his or her experience. The ProfilPass has a strong focus on self-exploration and ignores external assessment. That is why the ProfilPass can be characterised as open-ended (ergebnisoffen). In the validation system both self-exploration and external assessment can be combined to strengthen the validations meaningfulness. The ProfilPass provides at the end of the process a confirmation of the self-exploration rather then a formalized overview of assessment results. The results of the ProfilPass are barely comparable among candidates, because of the individualistic, formative and open-ended approach. The confirmation serves as basis to formulate development goals. In this the ProfilPass slightly differs from what is stated in the validation system, where is described that the goal of the candidate should be determined in the beginning of the process. But it is a good idea taking a look at the results at the end of the process to reflect on the goals. The validation system would benefit from incorporating both; to start the process with a goal determination and end the process with a reflection on this goal and creating an action plan.

The ProfilPass emphasises especially the goals of visibility and awareness as described in the system. Utilisation and mobility are not explicitly mentioned as goals of the ProfilPass, but due to the learning and development orientation of the ProfilPass both might become goals for the candidate during the final reflection. This would also fit the goal of empowerment described in the validation system. Appreciation is also not explicitly mentioned in the ProfilPass, but it is not unrealistic that candidates/users of the ProfilPass experience appreciation during the process of self-exploration and reflection. Thus, the ProfilPass bears the potential to serve all goals stated in the validation system.

The ProfilPass system also takes care of quality assurance. For the ProfilPass a quality management compendium is formulated. Next to that, this project is scientifically supported by the DIE (Deutsches Institut für Erwachsenenbildung) and the IES (Institut für Entwicklungsplanung und Strukturforschung). This support is meant for continuous improvement of the ProfilPass system.

The infrastructure of the ProfilPass fulfils to the one formulated for the validation system. The ProfilPass system has a well-established network of dialogue centres and co-operation partners that support the whole system. The concept of the ProfilPass is a registered trademark and can therefore be seen as the common mandatory basis and understanding. Consultants, instructors and other actors keep to the description of the concept of the ProfilPass. A legal basis for the ProfilPass has not been established.

Conclusion

The structure of the ProfilPass is compatible with the validation system for non-formal and informal learning. The formative and open-ended character of the ProfilPass on the other hand limits the comparability of the results and therefore reduces the chances for acceptance in the labour market. But this character is also exactly what is needed to make individual learning and development histories visible.

A suggestion is to develop a modification of the ProfilPass that adds to the formative part a summative method to create a combined approach. Candidates that in the first place do not know what competences they have available and where they want to go with their professional life need the formative ProfilPass to become aware and develop a perspective where to go to. If they have determined what they want to do with their professional life the summative part referring to a relevant standard will provide more focussed and comparable results that help the candidates on the labour market to pursue their plans for their professional life.

Lessons learned

The ProfilPass has a clear focus on informal learning and the drive to make tacit knowledge explicit. In the validation system this is not mentioned with such a specific focus, but the validation system and its elements do not exclude such a focus. The validation system asks for different

instruments, methods and approaches during the assessment. It would be of added value for the validation system to integrate the experience of the ProfilPass with making tacit knowledge explicit.

Another aspect that is worth considering in the validation system is the incorporation of a reflection moment on the determined goals. This reflection is valuable to all validation approaches and enables candidates to specify action plans to pursue the candidates' goals and plans for their professional development.

Externenprüfung

Description and characteristics

The Externenprüfung is an opportunity to catch up on a formal qualification of an officially accredited vocational educational training. Candidates get the chance to take part as external participants ('Externe') in the final examination of an accredited vocational training for a certain occupation. The Externenprüfung is meant for persons, who have worked a certain time in a certain profession or occupation, but never followed and/or finished the vocational educational training with the proper examination. The examination takes place at the responsible chamber (IHK, Handwerkskammer, Landwirtschaftskammer, etc.). The access to the examination is granted based on some pre-conditions, which are determined by the Berufsbildungsgesetz (BBiG, §45 Abs. 2) and the Handwerksordnung (HwO, §37 Abs. 2). The candidate needs to proof that he or she has gained work experience in at least a minimum time of one and a half times the duration of the vocational training for the occupation in question. The candidate also needs to proof that he or she has executed the tasks, which a skilled worker has to do. The proof of the experience in the respective occupation is shown with employers' references, work contracts and other documents that prove the relevant work experience. If the candidate has followed a different but relevant vocational educational training than the occupation the examination is for, the education time can be counted to the required minimum time. If the minimum time of work experience cannot be proven the candidate is allowed to show his or her occupational action ability in another trustworthy and credible way that justifies the access to the examination. The decision about access to the examination takes the chairman of the examination board at the responsible chamber. Examinations take place twice a year and consist of a written and an oral exam. A specific and purposeful preparation to the examination is expected of the candidates. Especially in the written exam it is expected that relevant theoretical relations are mastered and that occupational problems are solved. The concrete requirements for the examination can be found in the respective training regulation of the occupation. Furthermore, in every federal state seminars and courses are offered for the preparation of the Externenprüfung. The seminars and courses can also be extra occupational. The chambers and the Agentur für Arbeit (employment office) can give information and consultation about the Externenprüfung and about preparation trainings and courses. Also there are some regional projects that stimulate people to catch up on their formal qualifications and they provide information on the possibilities and requirements in regional locations.

Application of the validation system to the Externenprüfung

The Externenprüfung can be characterised as a summative approach because the examination is referring to a vocational training standard. The process of admission to the Externenprüfung is similar to the assessment described in the validation system in that it is also based on evidences of experience. The difference, however, is that these evidences are not used to document proven competences. The requirements for admission are solely to collect evidence to prove the minimum time of work experience. The requirements set for admission could be understood as a sort standard, but it is very different to the standards described in the validation system. The requirements show no focus on competences or learning outcomes. Just the minimum time and formal documents function as evidence that the candidate's work experiences are relevant enough. If the candidate is not allowed to access the examination or fails it, he or she has nothing in hands to prove that he or she has competences. Next to that, the candidate experiences no counselling or support for the Externenprüfung. The candidate is not at the centre of the process.

The clear goal of the Externenprüfung is the 'Nachqualifizierung' (second-chance qualification), awarding a formal qualification. In the validation system this is seen as an objective and a measure to reach other relevant goal(s). Gaining a formal qualification might serve utilisation,

mobility, empowerment and appreciation. But the goals visibility and awareness need the focus on competences, which is not given in the Externenprüfung.

The quality of the Externenprüfung and the access to it is assured by the chambers, which are responsible for the whole process. There is no concrete information about how the quality is kept.

The infrastructure behind the Externenprüfung is well established, with the responsibilities allocated at the chambers. The chambers are the information-centres and providers. But also other institutions (e.g. Agentur für Arbeit, service locations of projects) offer information about the access to the Externenprüfung in different locations. Thus, there is also a network available that supports the Externenprüfung. As the Externenprüfung requires thorough preparation of the candidate, the infrastructure also includes educational institutions in every federal state that offer seminars and training courses. The Externenprüfung has a legal basis to its grounds. It is determined to whom and under which conditions access is granted to the examination.

Conclusion

The Externenprüfung itself is not really a validation instrument. It is an examination. Although the Externenprüfung has a different intention, this instrument could find a valuable place in the validation system. If the Externenprüfung would be integrated into the validation system in a way that the validation process leads to the access of the examination, this could be considered as a connection between the formal qualifications system and the validation system for non-formal and informal learning. The benefit for the candidate would be a report of validated and visible competences, even if the examination were not passed.

The admission phase with the revision of documents whether someone fulfils the required conditions to gain access to the examination already has some similarities with what is described in the validation process of the validation system. A summative validation process with a clear orientation on and documentation of competences and a reference standard should lead to access the examination. The awarding of the formal qualification can be seen as the ultimate target of a summative validation approach, but it is not the ultimate goal of the validation process.

Lessons learned

The Externenprüfung bears two advantages for the validation system. These are the well-established infrastructure of the chambers and the acceptance and trust that is given to the examinations of the chambers. Developing the Externenprüfung towards an instrument for the validation of non-formal and informal learning, this instrument would benefit from the existing structures of the Externenprüfung and the chambers. As result of the chambers accepting the validation results to grant access to the examination, the instrument would experience acceptance and trust because the chambers and their judgement are trusted. For the validation system can therefore be concluded that the involvement of the chambers is necessary and that this fact should be emphasised in the validation system.

Lernstück-Verfahren

Description and characteristics

The Lernstück-Verfahren is a project by the University of Erfurt, the Eichenbaum GmbH and the IHK Ostthüringen zu Gera and has been tested with a pilot study in practice (Kaufhold & Barthel, 2011).

The Lernstück-Verfahren is set up as a sector-independent validation procedure with the clear goal to certify informally (esp. through work experience) gained knowledge and skills. This is in contrast to other instruments (e.g. ProfilPass) that just have a focus on the documentation of competences. The target group of the Lernstück-Verfahren are employees without the formal qualification in the current area of activity and employees who work in the learned occupation and who upgraded their qualification through work experience.

The Lernstück-Verfahren is based on the following demands for the recognition of competences: 1) inspection of informally gained knowledge and skills, 2) inspection of general (überfachlich) knowledge and skills and 3) certification of actually performed learning (learning outcome orientation). The precondition for the recognition is a profound acquisition of existing subject-specific and general knowledge and skills. This procedure wants to stimulate the transition of

documented competences to accredited proofs/certificates. To reach this, the Lernstück-Verfahren wants to fulfil the following requirements: applicability, acceptance, transparency and quality standards.

The Lernstück-Verfahren is structured with three phases: 1) Identification of knowledge and skills, 2) Documentation of a work process and 3) Certification of knowledge and skills. The first phase includes an intake workshop and a guideline-based interview with a focus on the individual learning experiences and the gained knowledge and skills (Kaufhold & Homburg, 2011). The documentation comprises a workshop about the establishment of the documentation, the development of the documentation and methodological consultancy. The challenges for the documentation of knowledge and skills are an independent working out by the individual candidate, the clarity and comprehensibility and an appropriate extent of detail orientation and subject-specific profundity. The documentation of a work process needs to be illustrated in a verbal and graphical manner including the goals of the work process, the conditions and requirements and the approach. This documentation aims for a work process and job oriented proof of knowledge and skills and is a requirement for the IHK-certification in the following phase. The certification of knowledge and skills requires an individual test organised by the IHK (Chamber of Commerce and Industry) and consists of an oral discussion and a company exercise (authentic assessment). The oral discussion takes approximately 30 minutes and the company exercise requires approximately 60 minutes. Both parts are executed at the current job location and refer to the documentation of the work process that was submitted by the candidate (Kaufhold & Homburg, 2011). The vocational educational training framework (Ausbildungsrahmenplan) also guides the IHK-certification. The assessment commission consists of a representative of the company, a representative of the IHK (Ostthüringen zu Gera) and a representative of the project team. Next to the IHK-certification gets the candidate a working out of the results from the identification phase, which is provided by the Eichenbaum GmbH (Kaufhold & Homburg, 2011). The Lernstück-Verfahren considers the self-perception of the participant as well as the perspective of external assessment. Additionally, different methods are used to document and assess the knowledge and skills of the participant. The Lernstück-Verfahren makes use of the actual work activities of the participant and considers the individuality of the participants.

The experiences from the project Lernstück-Verfahren confirm a sector-independent application and a workability of the procedure for a diverse target group. But it is also revealed that additional support for the participants is needed. The support from companies and organisations is necessary to create the assessment context. The project group states that a time investment of 60 hours is sufficient and that the IHK-certification supports the interest in and acceptance of the procedure (Kaufhold & Barthel, 2011).

Application of the validation system to the Lernstück-Verfahren

The Lernstück-Verfahren can be characterised as a validation instrument with a combined and individualistic approach. The process is competence-oriented and makes competences visible through on the one hand rather formative validation activities in the identification phase and on the other hand more summative validation activities in the documentation and certification phase. The identification phase refers to no standard and has a clear focus on the individual learning biography. It is not clear whether the documentation of a work process refers to a pre-determined standard or not. But the documentation has to fulfil several criteria to be accepted and lead to the certification, which gives the documentation a summative character. Also determines the candidate the work process that he or she is going to describe, which fits to the individualistic approach. The IHK-certification based on the documented work process, but is oriented on vocational training frameworks and thus adds to the summative character.

The structure of the Lernstück-Verfahren fits to the process described in the validation system. Although it needs to be enhanced, the candidate gets support in every phase of the process. In the identification phase counselling and coaching takes place to raise the candidate's awareness for his or her individual learning history. In the documentation phase the candidate gets support through workshops and consultancy on methodological aspects of the documentation. The candidate has to describe a relevant work process in such a way that his or her understanding of and ability for the right execution of the work process becomes visible. With this documentation evidence for competences is collected. The Lernstück-Verfahren tests and certifies the described competences in an IHK-certificate

and completes the validation process with a report of the results of the formative validation in the identification phase. This fits perfectly to the phase of reporting results described in the validation system.

Although the information and literature about the Lernstück-Verfahren announce the certification of competences as main goal, this instrument also fits to the goal of visibility stated in the validation system. With the combined approach competences are made visible, documented and certified. Candidates' become aware of their competences and probably feel empowered. The Lernstück-Verfahren limits its assessment to a work process that is executed at the candidate's present work location. This might lessen the transferability of the results and might narrow the potential mobility of the candidate.

The IHKs are known for their good quality examinations and their cooperation in the Lernstück-Verfahren strengthens the documentation of the work process and the certification. The Lernstück-Verfahren aims to fulfil to several criteria as applicability, acceptance and transparency, which is in accordance with the quality assurance formulated in the validation system. Further aspects of quality assurance are the three different assessors for the individual test in the certification phase and quality criteria for the documentation of the work process. There is no information about further quality assurance measures known, for example accreditation and audit.

Regarding the infrastructure, the Lernstück-Verfahren combines relevant actors (IHK, employer) to provide a valuable validation of the candidate's competences. This can be understood as a useful basis for the network that is incorporated in the validation system. But this setup requires an employed candidate and a work location where the assessment can be conducted. Thus the Lernstück-Verfahren limits the target-group to employed people. Further information about infrastructural aspects is not known. Given the fact that the Lernstück-Verfahren is just tested in a pilot project, it is understandable that no information- and counselling centres or legal basis are set up yet.

Conclusion

With its combined approach is the Lernstück-Verfahren a strong validation instrument. The Lernstück-Verfahren translates very well the elements of the validation system and has an individualistic approach that appreciates individual and diverse learning histories. The cooperation of the IHK in the Lernstück-Verfahren supports the acceptance of the validation results.

But this instrument also has some limitations. To this point the original Lernstück-Verfahren is only available for employed candidates and it has a strong association to the work location, which might limit the transferability of the validation results. Further development to open up the Lernstück-Verfahren for unemployed candidates and creating authentic assessment activities detached from a work location would make the Lernstück-Verfahren a broadly applicable and useful instrument.

Lessons learned

The application of the validation system to the Lernstück-Verfahren indicates that not only competences, but also specific knowledge and skills can be validated. Knowledge and skills are a part of competences and in most validation instruments they are assumed based on the assessment of competences and learning outcomes. Further discussion has to proof whether this distinction is necessary and beneficial for the validation system or goes it beyond the scope of the validation system.

The following chapter completes Master thesis with the discussion of the executed research and the conclusion in which the answers to the research questions are given.

Discussion and conlusion

This last chapter consists of two parts: the discussion and the conclusion. In the discussion a quick view is taken on the research results considering the expectations of design-based research. Moreover, the reflection on the research methods and the validation system is depicted and suggestions for further research are given. Finally, the answers to the research questions conclude this Master thesis.

Discussion

In the frame of design-based research two main results are expected. The first is providing a practical solution for a problem and the second is the contribution to theoretical knowledge. The results of this study present a theoretical model that provides an evaluation framework for validation instruments and a guideline with starting points for the development and implementation of validation instruments in Germany. It can be stated that the model contributes to the theoretical knowledge about validation systems for non-formal and informal learning, because it makes the relevant elements for the validation of non-formal and informal learning explicit. The model also provides a practical contribution in the way that it serves as starting point to make concrete choices regarding validation instruments. This way the results of this study appear to fulfil the criteria set by design-based research.

Reflection on the methods

The executed research on the topic of the validation of non-formal and informal learning in Germany made use of literature study, interviews and application of the validation system as research methods. The literature study provided information about several aspects of the validation of prior learning and about the German context. Although plenty of information was found, the literature study was limited by the fact that many German resources were not accessible through the University's databases or the general Internet. Better accessibility of the German resources could have provided more specific information on the status of research regarding the validation of prior learning in Germany.

The second method used, were interviews. Interviews were held with key-informants and were used for the expert appraisal. The key-informant interviews provided plenty of valuable information, but the questions asked during the interviews were kept general and were not based on a certain theory. This was done, because of the explorative intention of the research and especially of the interviews. It was unknown, what specific information was necessary to develop a validation system for non-formal and informal learning in Germany. A theory as foundation for the interview questions would have led to more specific questions, which would have been more comparable in the analysis. The theory would have also provided more structure to the analysis. On the other hand given the explorative intention of the executed research, it was a good choice to keep the interviews general and as open as possible to use the collected information for the orientation on the topic. This way the interviews completed the literature study. Another method like questionnaires could not have provided the same benefit. During the expert appraisal it could have been valuable to initiate a discussion between the experts. This could have provided more information and general points of consideration regarding the implementation and institutionalization of the validation system. The Delphi-method might have been a useful tool for this kind of discussion and should be considered in future research.

The interview partners that were selected for the key-informant interviews and the expert appraisal formed a variety of backgrounds and perspectives, which delivered broad and valuable information. Though the number of key-informants was rather small all essential domains derived from the literature study were covered during the interviews. An improvement would have been to get more interview partners from each domain to compare opinions within the domains. For the expert appraisal a few new interview partners were selected, who added experience with validation instruments and research on this topic in Germany to the diverse backgrounds and perspectives of the key-informants. There are definitely more stakeholders (e.g. potential candidates and employers) to the validation of prior learning that could provide a valuable contribution, but it is important that the stakeholders have knowledge about this topic to be able to talk, discuss and brainstorm about it. For

this reason was one interview excluded from the data set, as the interview partner had actually not enough knowledge and experience on this topic.

The analyses of all interviews were done by the development of category frameworks, which is a typical analysis method for qualitative research. An improvement in the use of this method for this research could have been to check the interpretations and categories by a second person. This would have benefit the validity and reliability of this qualitative research. Also member checking could have been an option to strengthen the analyses results from the interviews. Member checking refers to the activity of sending the interview partners their responses to check whether the answers were interpreted in the right way.

The application of the validation system to the three instruments is seen as the third method used in this research. The application was based only on document analysis and could have been strengthened by interviews with stakeholders, like developers of the instrument, employers or representative of (vocational) educational institutions. This way the element of the supportive environment as described in the validation system could have been included in the application. In this the acceptance of the results could have been considered and could have provided information how acceptance is supported and where problems or limitations are experienced.

The choice of instruments for the application made it possible to show that the validation system is applicable to different types of instruments. A next step could have been to use the validation system to show how these different instruments could be integrated and work together to cover all facets of the validation of non-formal and informal learning.

Reflection on the validation system

The developed validation system provides a framework to develop and evaluate validation instruments, but it does not precisely describe how validation instruments should be designed. It is important to understand that this validation system is not meant as a design instruction. But the validation system provides starting points for the practical realisation of the validation of non-formal and informal learning and can serve as basis to derive concrete design instructions for different types of validation instruments.

The application of the validation system to existing instruments, however, showed that the validation system is not fully matured yet. Suggestions for further improvement, like adding a reflection moment on the candidate's goals at the end of the validation process, were drawn from the second evaluation. Other aspects of the validation system as financing, data security of the candidate and a possible legal basis were not specifically considered in the evaluation of the validation system, but these aspects could be paid more attention to describe possibilities and limitations more precisely. The same is true for the different stakeholders and actors of the validation system. They should be given more attention to understand who is available to take charge of the different responsibilities. This was not a focus within this research, but the results show that a good understanding of relevant actors and stakeholders is desired. Who are validation providers; commercial organisations, governmental institutions or the chambers? Who should be the accreditors of validation providers? Where to find assessors and counsellors? Questions like these should be answered to mature the validation system.

It can be assumed that the core elements of the model are useful and applicable in other countries that want to introduce the validation of non-formal and informal learning, although this here presented research is focused on Germany. The elements can be interpreted from every national background taking the national (vocational) education system, labour market and relevant actors into account. Every validation system in the world will need a process, goals, quality assurance, an infrastructure and a supportive environment to bring the validation of non-formal and informal learning successfully into practice. Nonetheless, the generalizability and applicability of the results should be proven by further research in the German context as well as other national contexts. Future research should consider potential candidates for the validation, employers and representatives of vocational educational institutions to gather more information about the practical implementation of the validation system and its connections to existing systems, e.g. the formal qualification system.

The ultimate goal in the frame of lifelong learning is the integration of the formal qualifications system and the validation system for non-formal and informal learning into one validation system. Then we can speak of the validation of learning outcomes as Bjornavold and Le

Mouillour (2009) propose. The focus on non-formal and informal learning is taken in this research, because it is relevant to first understand what elements are important for the validation of non-formal and informal learning. This step is necessary before trying to integrate the validation of non-formal and informal learning with the formal qualifications system. Now knowing this, the next step will be to find the links and connections to the formal system and to integrate the two systems. The results of a validation for non-formal and informal learning should be accepted in way, that access to (higher) education or further advanced training is granted to support and stimulate further development of the candidate within and outside of organisations. This way the formal system and the validation for non-formal and informal learning would get one point of connection. Nonetheless, it will take time and many efforts to develop the acceptance and trust in validation results to fully integrate the two systems. A mentality change in society is necessary that stems the desire for formal qualifications, as it is known from today's labour market.

Further research

Next to the above indicated improvements and consideration for future research on this topic, this research also suggests further research on the characteristics and requirements for assessors and counsellors in the validation process. The results from this research indicate several expectations and requirements for the professionalism of assessors and counsellors. Further research focussing on these aspects of the professionalism of assessors and counsellors would underpin the indications coming from this research and provide relevant information for practical implementations to professionalize assessors and counsellors. In this context the subjectivity of the assessors during the assessment should be explicitly mentioned. Subjectivity is something that cannot be completely excluded from any assessment that involves humans (Van der Vleuten et al., 2012). Subjectivity ought to be minimized in the best possible way, but the gut feeling of the expert assessor is something that will always be there. To train the assessor to understand and trace where the gut feeling is coming from could be very valuable in the assessment. The assessor could focus his assessment on specific aspects of a work process or competences and ask better-directed questions to fully reveal the competence of the candidate.

During this research the question arose whether a statutory basis for the validation of non-formal and informal learning is necessary. An answer to this question cannot be given here, but an idea is to investigate whether it is necessary and possible to expand the BQFG (Recognition Act) to include summative, formative and combined validation instruments for everyone with a learning history in Germany or elsewhere.

The allocation of the competences list, as described on page 32, to the German Qualifications Framework (DQR) could be an interesting starting point to complete the DQR with non-formal and informal learning. The allocation of the competence list to the DQR might support the acceptance of the validation results because formal qualifications and the validation of non-formal and informal learning become comparable within the DQR. The DQR is set up as an instrument for comparability of (vocational) educational competence and it is meant to accumulate the learning outcomes of all types of learning (AK DQR, 2011). The DQR might become a bridge over the gap between the formal qualifications system and the validation system for non-formal and informal learning.

Conclusion

The validation of non-formal and informal learning needs a comprehensive validation system to put lifelong learning into practice and enable the development of useful validation instruments. In Germany such a system is lacking and this explorative research was meant to answer the following main question:

What should a validation system for non-formal and informal learning in Germany look like?

To find an answer to this main question three sub-questions were formulated to structure and give direction to the explorative research. In the following these three sub-questions are answered one by one.

The first sub-question was to determine the relevant core elements of the validation system. The question reads as follows:

1. *What are the core elements of a validation system for non-formal and informal learning in Germany?*

Based on the results from the literature study, key-informants interviews and expert appraisal the core elements for a validation system for non-formal and informal learning in Germany are the *validation process*, the *validation goals*, *quality assurance,* an *infrastructure* and a *supportive environment*. At first *standards* was another core element for the validation of prior learning. Because standards are not essential for every validation approach (summative, formative or combined), this element was incorporated within the validation process.

The elements alone do not form a validation system. Thus, the second sub-questions asks for the relations between the core elements:

2. *How are the core elements related within the validation system for non-formal and informal learning in Germany?*

To answer this question based on the results of the literature study and key-informant interviews a model that brings the core elements together in a validation system was developed. The model showed the relations within the model by joint borders of the parts representing the elements (see p. 21). A detailed description of the model explicated the meaning and directions of the relations within the validation system. But this representation of the validation system appeared to be too static and not fitting for the definitions of the elements, according to the expert appraisal. For example the supportive environment was placed in the centre of the model with three other elements, although the name 'supportive environment' already suggests for this element to be around the other elements. The relations within the validation system are too diverse to visualise them all. That is why the core elements ultimately were arranged in a model with the validation process at its centre and the other elements in layers around it like onionskins. Joint borders no longer represent the relations between the elements. The model is shown in Figure 2 on page 29. The layers represent the broader growing context of the validation system from inside to outside. Each inner layer is embedded in the bigger outer layer. Roughly speaking the outer layer is a carrying element for the inner layer(s) in that it ensures or enables the inner layer(s). The inner layer(s) presume the outer layer(s).

The validation process is at the heart of the model and it presumes validation goals. That is why the goals are arranged in the layer around the validation process. Quality assurance ensures a high-quality validation process and the goal achievement and is therefore the layer around the goals and the validation process. Quality assurance is very important to establish trust in and acceptance of the validation results coming from the validation process. Actually, quality assurance is intertwined with the infrastructure, which is the next layer. The infrastructure provides necessary resources and facilities to ensure and enable on the one hand quality assurance measures and on the other hand a good working of the validation process. Thus quality assurance presumes an infrastructure. From the expert appraisal the great importance of quality assurance became clear. That is why it is kept as a core element and is not fully integrated into the infrastructure. The most outer layer is the supportive environment, which embraces all other layers. This layer and element is ultimately the one that shows the desire to achieve the validation goals and requests a high-quality validation process with an adequate infrastructure. The supportive environment refers to the societal attitude towards lifelong learning and the necessity of valuing all types of learning. In this environment the acceptance for the validation results (civil effect) will ultimately be established.

The third sub-question refers to the applicability of the developed validation system to develop validation instruments. The question reads as follows:

3. *How can the validation system serve as guideline for the development of validation instruments for non-formal and informal learning in Germany?*

The developed validation system was applied to three existing instruments and the application showed that the validation system could serve as basis to develop design ideas about existing instruments to improve the instrument's ability to validate non-formal and informal learning. Thereby, it also became clear that the validation system is a useful tool to evaluate to what extent an instrument is able to validate non-formal and informal learning. With help of the developed validation system existing instruments and structures in Germany can be analysed and if necessary adapted to the frame the

validation system offers. This way the validation system could prevent the development of unnecessary locally varied instruments. The validation system points out choices that need to be made in validation instruments regarding the validation approach and the other elements in the validation system. In this way the developed validation system can also function as a basic guideline for the development of design instructions for new validation instruments for non-formal and informal learning.

The validation system is a framework to better understand and value the diversity of the validation of non-formal and informal learning. It is a helpful tool to explain what validation is and that there is not only one solution or instrument for the validation of prior learning. The framework has the potential to show how different instruments interrelate, fit together and form a validation system. It can function as basis for the integration and coordination of existing and new instruments. This framework does not say that one instrument or type of validation is better than another. It makes clear that there are different types and instruments for validation and that together they can cover all facets of the validation of non-formal and informal learning and make competences visible. This understanding needs to spread over the labour market and society and among candidates and other stakeholders. Everyone has his individual learning path and that needs to be appreciated.

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Appendix

A. Detailed description of the first model of a German validation system

Validation system for non-formal and informal learning

Introduction

The validation system that is described in the following paragraphs does not separate non-formal learning and informal learning. It is chosen to integrate both learning types as they can be assessed in the same way. An optimal development would be the integration of formal learning in the validation system, but this is neglected for now because of the sovereignty of the German Federal States regarding education and the high value that is given to formal qualifications based on a formal (vocational) educational way. But with a development towards a description of qualifications in learning outcomes the integration of formal qualifications into the validation system gets a realistic chance. More on learning outcomes can be found under *standards*.

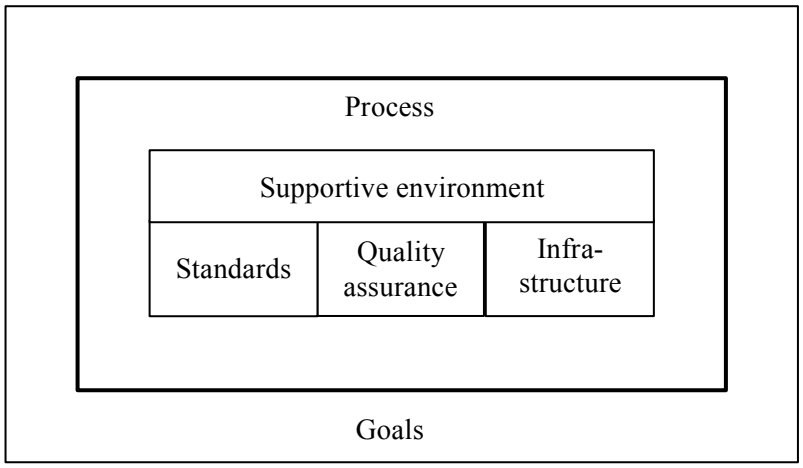

Figure 5. Model of elements of the validation system

The validation system for non-formal and informal learning for Germany comprises several elements, which were derived from the key-informant interviews and the literature study. Figure 5 shows the crucial elements of the validation system. The description of the system starts with a clarification of the goals of the system. Afterwards, the validation process is specified, which forms the central part of the validation system. For the process standards are needed which are described next. Quality assurance, infrastructure and a supportive environment are detailed as necessary elements of the validation system. In the end the relationships between the elements of the system are described. In Figure 5 the relationships are visualised through joint borders of the elements. The relationships are not necessarily two-way relationships.

Goals

The validation system of non-formal and informal learning has four goals: 1) **mobility**, 2) **visibility**, 3) **awareness** and 4) **appreciation**. The goals often have two dimensions incorporated. The first dimension is the personal dimension of a goal for the candidate and the second dimension refers to achievements for society. The societal dimension often aims on long-term goals, whereas the personal dimension rather has a short-term perspective. One goal of the validation system is to encourage **mobility** (European Commission, 2012; Cedefop, 2009). Mobility means the movement of employees between jobs, organisations and sectors. The societal dimension is that the labour supply becomes more flexible and can better be synchronized with the labour market demand (European Commission, 2012). The personal dimension refers to the possibility, based on the validated competences, to change the job and find a function that might be more fulfilling. The validation

process should then also open the way to access training opportunities, without requiring a formal education where possible. This closely relates to the goal of visibility. **Visibility** refers to the effect of the validation process, that competences are made visible to the candidate, employers and society (Berglund & Andersson, 2012). The expert of the German Qualifications Framework (DQR) (personal communication, June 10, 2013) states that competences learned through life and work experiences should be made visible for the individual to improve utility and for the labour market and organisations to increase transparency about existing competences of applicants and employees. For employers and the society it is also wishful to make competences visible to be able to utilise them more effectively (Berglund & Andersson, 2012, European Commission, 2012). Candidates are often not aware of what they are capable of and what they have learned during their years of working. Visibility of competences can enhance self-confidence and serves the goal of (self-) **awareness** of the candidate. The expert from the Knowledge Centre for APL (personal communication, June 7, 2013) emphasized that it is the goal of a validation process to reinforce the value of a candidate for the labour market. Through visibility and awareness of competences the value of the candidate for the labour market is brought to mind. The candidate experiences **appreciation** for the developed competences through the validation process (expert Libereaux, personal communication, June, 2013). Thus, for the candidate it is a goal to feel appreciated and valued for the competences he or she developed. Employers and society are able to show their appreciation in several ways. Employers could think about salary adjustment or assigning new or different tasks to the candidate. In a long-term perspective society might show appreciation for the results of a validation process by accepting these results in the same way as formal qualifications.

Process

The process should be mostly standardised, thus the same for every candidate, but it also need to leave room to be responsive to individual needs and purposes. The process consists standardised elements that every candidate runs through containing refined parts that are adapted to the individual. The standardised process consists of four elements: 1) **counselling**, 2) **support**, 3) **assessment** and 4) **results**. The refined parts lay especially in the elements of support and assessment. The four elements presented here describe the validation process slightly different from other literature. In most literature the validation process is divided into identification, documentation, assessment and certification (Joosten-Ten Brinke et al., 2008; Duvekot, 2009; Colardyn & Bjornavold, 2004; AKs DQR, 2011), which are incorporated in the description below. Based on the interviews it was chosen to use the terms listed above, because they capture the overall process of validation in a more comprehensive way. Counselling, support, assessment and results describe the whole process around the identification, documentation, assessment and certification. Instead of focusing on competences, the description below puts the candidate to the centre of the process.

The process should start with sophisticated **counselling** including a needs analysis of the candidate. The candidate needs to be informed what validation is (and what it is not), what it can mean for him or her, how the process looks like, what the candidate can expect and what is expected of him or her (Joosten-Ten Brinke et al., 2008). This should lead to the needs analysis of the candidate to determine the goal for the validation process. This goal could be to get a clear picture of what has been learned the last years through work experiences or to enter the examination for a formal vocational educational training an receive the corresponding formal qualification. The expert from the Knowledge Centre for APL (personal communication, June 7, 2013) states the emphasis of a validation system should be in the identification of the career goal and subsequently in the determination of a fitting instrument. The goal of the candidate directs the assessment in the validation process. The counsellor advises the candidate in the choice of a standard (see *standards)* that will form the basis for the assessment and the fitting instruments.

During the assessment, the candidate is supposed to collect evidence for the competences in the standard. A set with feasible quality criteria for the collected evidence should be established to ensure a strong underpinning of the assessment results (Joosten-Ten Brinke et al., 2008). Because the collection of evidence, e.g. documents from former working projects or self-written descriptions of tasks and learning moments, is quite difficult for the most candidates, proper **support** should be provided during the validation process (Colardyn & Bjornavold, 2004). The validation process requires a high level of responsibility of the candidate (Joosten-Ten Brinke et al., 2008). That is why

the candidate should have one counsellor, who stays with him or her through the whole process. The counsellor is the contact person for the candidate regarding questions, counselling and advice and watches the whole process to stimulate the candidate or prevent delay. The candidate and counsellor built a relationship, which makes it easier for the counsellor to understand the needs of the candidate and adapt to it. The counsellor should give a clear and transparent overview of the validation process and structure of the support that he or she offers (Cleary et al., 2002).

As mentioned above the **assessment** in the validation process is about the collection and documentation of evidence for the competences the candidate has developed. Evidence can be collected and documented with several different methods. The assessment should always combine two or more methods (Colardyn & Bjornavold, 2004; expert Knowledge Centre for APL, personal communication, June 7, 2013). In scientific literature several quality criteria are formulated for assessment methods of non-formal and informal learning. It is to mention that the scientific discussion goes into the direction that the assessment of non-formal and informal learning needs different quality criteria than formal assessments (Baartman et al., 2006; Bronkhorst et al., 2012). Criteria, such as validity and reliability, are not suitable for this kind of assessment although not unnecessary, according to Baartman and her colleagues (2006). The methods should be chosen in a way that they cover the standards (expert Knowledge Centre for APL, personal communication, June 7, 2013). This does not mean that every method necessarily needs to cover the whole standard, but that together the methods need to cover all aspects of the standard and to enable a grounded judgement. There is a variety of instruments to choose from, which all slightly differ in their focus areas, e.g. target group or goal. The infrastructure of the validation system should enable the integration of these divers instruments into the validation process to offer suitable instruments to the variety of individual needs and goals. Formal examinations should therefore not be excluded from the system, although it focuses on non-formal and informal learning. The instruments that are used mostly in validation processes are the portfolio and work or performance demonstrations (Andersson, Fejes & Ahn, 2004). Also self-evaluation instruments or 360° feedbacks are often used as validation instruments. The counsellor supports the candidate during the collection of evidence. For example, the candidate needs to collect documents to fill a portfolio including a self-evaluation or 360° feedback. The counsellor watches and controls the quality of the evidence before the evidence is handed over to the assessor, who in the end writes the validation report. The important thing is that the counsellor is never the assessor of the candidate (expert Knowledge Centre for APL, personal communication, June 7, 2013). The assessor needs to be a subject matter expert, while the counsellor requires moderate understanding of the occupational context in which the assessment takes place. The counsellor needs this understanding of the occupational context to control whether collected evidence is suitable for a chosen occupational standard. Keeping the counsellor and the assessor separate serves the objectivity of the assessment. Quality criteria for the evidence and the validation report should be established. Joosten-Ten Brinke et al. (2008) describe seven criteria the evidence should fit to (more under *quality assurance*). The portfolio is a well-established instrument in validation processes (Colardyn & Bjornavold, 2004) and should definitely be integrated in the German validation system. The portfolio is an instrument that serves every possible goal for a validation process and should therefore be a standard instrument. The portfolio, especially when including a self-evaluation or 360° feedback, supports particularly the goals of visibility and awareness about the candidate's own competences and capabilities. For some occupations an interview with the candidate in addition to the portfolio will be a strong enough basis to form a judgement, but for other occupations a work or performance demonstration is necessary to get a complete picture of the candidate's competences.

As a **result** of the validation process the candidate gets a validation report with a description of the goal, the process and the validation outcomes. The validation report should focus on what the candidate is competent in rather then emphasize gaps (expert Libereaux, personal communication, May, 2013). The tone of the report should be positive, as it should be in the whole validation system. This means that competences and learning outcomes that are shown on a sufficient level will be described and underpinned. Competences and learning outcomes that are not achieved will be mentioned in the report but there will be no detailed description or argumentation why. The validation outcomes should be formulated in terms of achievement. The standards can be achieved, partly achieved or not achieved. These validation statements need to be underpinned by the collection of evidence. A short description of evidence and argumentation why a standard is achieved should be

given. The validation report should initiate further development of the candidate. Therefore the report should be written in a way that it could lead towards access to or exemption of training parts or the access to a formal qualification examination, if that is the goal of the candidate. For this reason it is important to be familiar with the requirements of training and examination providers. Training and examination providers should think and be clear about to which extent they accept a validation report. This topic is a relevant discussion point for the supportive environment and the infrastructure of the validation system. A formal qualification also refers to higher education. A validation report should facilitate and simplify the access to higher education as well, but because of the sovereignty of the higher education institutions in Germany they have the power of decision whether the validation report represents enough evidence to grant access. Therefore higher education institutions often have their own validation process, which is fully under their responsibility and which they trust in. For this reason, the counsellor should lead a candidate with the goal to access higher education towards the relevant higher education institution.

Standards

Standards are the essential core for the validation of (non-formal and informal) learning (Bjornavold & Le Mouillour, 2009). Which standard is used in the validation process is determined by the goal of the candidate and the feasibility for the candidate to fulfil the standard. The standards have four core elements: 1) **activities**, 2) **learning outcomes**, 3) **competences** and 4) **performance indicators**. Standards should refer to the **activities** executed in an occupation rather then the qualification frameworks for the formal vocational educational training (Ausbildungsrahmenplan), e.g. Bankkaufmann/-frau (banking clerk), Hotelfachmann/-frau (hotel clerk). Vocational educational training has a broad structure to give insights in all aspects of the branch in question and to provide a good basis for employment and further development. But the jobs taken after the vocational educational training are more specified. Not all areas covered in the vocational educational training are applied in later executed functions. Therefore it is more relevant to use the activities actually executed in labour market occupations detached from the vocational educational settings to formulate the standards (Bjornavold & Le Mouillour, 2009). The activities in the standards should be formulated in terms of **learning outcomes** which articulate what someone knows, understands and what he or she is able to do after a learning process without referring to the way it is learned (Bjornavold & Le Mouillour, 2009; AK DQR, 2011; EC Proposal, 2012). Formulating standards in terms of learning outcomes makes it possible to separate the way of learning, whether it is formal, non-formal or informal, from the outcome of the learning process. Bjornavold and Le Mouillour (2009) advocate for the term 'validation of learning outcomes' instead of keeping emphasis on the different learning types. Learning outcomes are defined in knowledge, skills and competences (Proposal EU Council, 2012). Knowledge is a collection of facts, concepts, principles, theories and practice in a field of study or work as a result of learning and understanding (AK DQR, 2011). Skills refer to the ability to apply knowledge and use know-how to complete tasks and solve problems (AK DQR, 2011). **Competences** on the other hand combine knowledge, skills and attitudes and refer to the ability to use this combination to handle upcoming situations. The AK DQR (2011) understands competences as comprehensive action skills. In recent years more and more countries became committed to competence-based education and training (Gonczi & Hager, 2010). Competences can be defined in educational as well as in vocational contexts. They form a useful comparable basis for validating learning outcomes, although the use of competences is shaped by the context. The validation of non-formal and informal learning wants to focus on competences developed through work and life experience. Therefore competences need to be described in the relevant occupational context. Each learning outcome will get accompanying competences that are relevant for that particular learning outcome. A comprehensive list of competences should be formulated in addition to the standards. This list gives a uniform basic understanding of the single competences. In the standards the relevant competences are chosen from the list and described in the occupational contexts referring to the activities and learning outcomes.

For the activities, learning outcomes and competences in the standards **performance indicators** need to be formulated to make the standards measurable (expert kenwerk, personal communication, June 11, 2013). Performance indicators are detailed descriptions of behaviour that is shown while accurately executing a task or solving a problem. Gonczi and Hager (2010) state that the

assessment of competences necessarily is based on inference from samples of performance, because of the not observable aspects of competences, e.g. abilities and attitudes. The authors state that the not observable aspects are only assessed due to inference based on several performance observations. For this reason, the performance indicators need to be very detailed. Performance indicators are relevant to make the standard **measurable** as they minimize the room for interpretation of the competences and provide a common and detailed basis for judgement whether someone is able and competent to adequately execute the described activities. Assessors and counsellors need to be trained in understanding, using and interpreting the standards and their elements to achieve consistency in the validation process (expert kenwerk, personal communication, June 11, 2013).

Quality assurance

To assure the quality of the validation system a **quality assurance system** needs to be integrated, **quality criteria** for several parts of the system need to be formulated and **accreditation** and **audit** activities need to be incorporated to ensure the quality of the validation system. This quality assurance system provides a basis for continuous improvement of the validation system and its components.

As basis for this quality assurance system **quality criteria** are necessary. These quality criteria need to be formulated for the several components of the system and form the basis to judge the quality of the specific aspects and with that the overall quality of the system.

The validation process should fulfil specific criteria that relate to the different elements of the process. Baartman et al. (2006) formulated twelve quality criteria for competence assessment programs. These criteria form a good basis for the overall process as described above. Table 7 shows the twelve quality criteria with a short description of each criterion. Elements of the process as counselling, support and results relate to these criteria. Baartman et al. (2006) emphasize in their quality criteria framework the different characters of competence assessment programs against classical tests and assessments. The authors argue that quality criteria, as validity and reliability, are not suitable for the mainly qualitative competence assessment programs. Validity and reliability should not be neglected, but their definition and the emphasis on them need to be adapted to the character of competence assessment. Baartman et al. (2006) conclude that validity and reliability are container concepts that are too broad for competence assessment. They need to be split up to be more fitting to the assessment of non-formal and informal learning. The assessment is the heart of the validation process and it should have quality criteria for its several components. The instruments to collect evidence should consider validity and reliability and account for them in one form or another (as container concept or split up). Also criteria such as objectivity and consistency should be considered. The use of different instruments can be stated as quality criterion itself. Joosten-Ten Brinke et al. (2008) give several criteria for the collected evidence as being relevant, transferable, on an appropriate level according to the standard, valid, authentic, recent and sufficient. The assessor should be skilled, experienced and of good knowledge of the working field he or she wants to be an assessor for (Cedefop, 2009). Additional knowledge and experience in (formal/practice) assessments in the relevant field of work are desirable. The assessor and counsellor of a candidate should be two different persons and the assessor should have no personal interest in the validation result of the candidate (Cedefop, 2009).

Criterion	Description
Fitness for purpose	The assessment fits the educational purpose and objectives of the context.
Transparency	The assessment method, criteria and purpose are clear to all participants-candidates, counsellors, assessors, social partners and the labour market
Acceptability	Participant's acceptance of the assessment method and results
Reproducibility of decisions	The assessment program has several assessment moments and decisions made on the basis of results are accurate and constant over time and assessors
Comparability	The assessment is consistent, standardized and comparable for all learners
Fairness	Bias does not influence the assessment process
Cognitive complexity	Candidates prove their acquisition of higher cognitive skills, which relate to and represent the level of process applied in future professions
Fitness for self-assessment	The assessment stimulates self-assessment and reflection
Meaningfulness	The assessment and goals fit together and create a surplus value for both the

	labour market and the candidates
Authenticity	The tasks that a learner has to fulfil should have a direct link with the future practice (Gulikers et al. 2004)
Educational consequences	The assessment is implemented only if positive effects are expected and negative aspects can be minimized
Costs and efficiency	The assessment is feasible in terms of costs and time investment

Table 7. Quality criteria from Baartman et al., 2006.

The validation process is based on the standards. The use of standards itself serves the quality of the validation process regarding criteria such as comparability, consistency, transparency, fairness and trust (Baartman et al., 2006; Bjornavold & Le Mouillour, 2009). But the standards also need to fulfil quality criteria. Standards should be stated in activities (Bjornavold & Le Mouillour, 2009), learning outcomes (Bjornavold & Le Mouillour, 2009; EU Proposal, 2012), competences (Bjornavold & Le Mouillour 2009, Gonczi & Hager 2010) and performance indicators (Gonczi & Hager, 2010). These different elements ensure a detailed description of the standards and make them measurable.

In the quality assurance system also the **accreditation** of validation providers should be integrated. Providers should be accredited to ensure that sufficient expertise for the validation is available and that the provider acts and validates according to the commonly agreed quality criteria. A regular **audit** should also be included in the quality assurance system to confirm improvement and development and to refresh the accreditation.

Infrastructure

The validation system needs an infrastructure as backbone. This infrastructure has several tasks to fulfil. The main tasks are to ensure the working of the validation process and its quality. For this purpose the infrastructure needs to provide access, facilities and resources. The infrastructure for this validation system should evolve from existing structures. This supports the acceptance of the system and its components if well-established structures can be used. The infrastructure should include **information- and counselling centres**, **quality assurance institutions**, a **network** of the actors and a **common basis** to act upon.

Information- and counselling centres (AKs DQR, 2011) provide the (physical) access for candidates to the validation process. These centres are organised by the providers of the validation process and provide facilities and resources in form of counsellors, assessors, space, materials and expertise. **Independent quality assurance institutions** should provide facilities and resources for the accreditation and audit of the validation providers and the quality of the provided validation process. There are a lot of different actors in the infrastructure, e.g. governmental parties, including the DQR, labour market, social partners, educational and training institutions and validation providers. These actors should form a **network** to facilitate the communication and bureaucracy within the validation system and to be a resource for discussion and continuous improvement of the validation process and system. An infrastructure with different kinds of actors needs a **commonly accepted basis** to act upon. This common basis should be mandatory to all actors and institutions within the validation system. It should at least comprise a common understanding and acceptance of the standards to be used, the core elements of the process and the quality of the results. In the Dutch context the EVC covenant is an example for this common basis.

Supportive environment

The validation system needs a supportive environment concerning access, acceptance, resources and political and legal conditions for the system including the infrastructure. This supportive environment has to deal with the **publicity**, the **financing**, the **common (legal) basis** and the **allocation to the DQR** of the validation system.

The first aspect of this supportive environment is the **publicity** of the validation system. Publicity supports the access to and the acceptance of the validation system. The system, the process, the result and their advantages for the candidate and the labour market need to be communicated and made public. Potential candidates and organisations need to know that this system exists and what it could mean for them. A publicity strategy needs to be determined including advertisement, information meetings and other methods. The Bundesagentur für Arbeit (Federal Employment

Agency) could play an important role for the publicity and should be included in the network of the validation system.

Another important aspect of the supportive environment is the **financing** of the validation system. Financial resources for the candidates or subsidies for organisations should be discussed before the implementation of the validation system.

As already mentioned above (see *infrastructure*) a **common basis** needs to be established for the validation system. This basis needs to be mandatory to ensure the rights for candidates to participate and the quality of the system and its components. It needs to be discussed whether a legal regulation is necessary or whether a covenant as in the Netherlands might be enough for Germany. Educational laws could integrate or be amplified with the validation system, e.g. the Berufsqualifikationsfeststellungsgesetz (BQFG) could be broadened and reformulated in a way that foreign qualifications are not the only focus of the law. Next to ensuring the rights for candidates the common basis should determine quality criteria for the standards and the process (AKs DQR, 2011), the steps in the process and the quality assurance for the system. In the discussion about a legal basis for the validation process questions about the rights that can be drawn from the result of a validation process should not be neglected, e.g. a possible right for salary adjustment, access to education and training, etc. Another important aspect that needs to be considered before the implementation of the validation system is data security. In Germany the data security regulations are comprehensive and the validation process and its results need to fit to these regulations (expert DIHK, personal communication, Jun 17, 2013). The common basis is an important component of the system that has the potential to enhance the acceptance of the validation process and in particular of the results.

The **DQR** is set up as an instrument for comparability of (vocational) educational competence and it is meant to accumulate the learning outcomes of all types of learning (AK DQR, 2011). Therefore an allocation of the standards used in the validation process is desired. An allocation of the comprehensive competence list underlying the standards would complete the DQR even more. The allocation of the standards and competence list would also serve the acceptance of the validation system as formal qualifications and the validation of non-formal learning and informal become comparable. This allocation is not necessary for the validation system to function, but it would strengthen the system and make the DQR more complete.

Relations within system

As already indicated with the joint borders in Figure 5 the elements of the validation system, as described above, are interrelated. Some of the relations are one-way relations, while other elements share a mutual relation. That is why it is chosen to resign from the use of arrows in the model, which would make it confusing. In this paragraph the single relations are described and indicated by arrows between the relevant elements of the model. The description of the relations within the system takes the validation process as starting point, because it is the heart of the validation system.

Process ⟶ *Infrastructure*

The validation process and especially the elements of counselling, support and assessment demand an infrastructure that offers the facilities and resources to access the validation process and to provide what is described as counselling, support and assessment. For this reason, the information centres are a necessary part of the infrastructure, which should be supported by an effective network of the actors in the system. This network should function in a way that the interests of the candidate are central.

Standards ⟷ *Quality assurance*
Process ⟵

The assessment in the validation process requires high quality standards that function as a shared basis for judgement. The use of standards relates to the quality assurance of the system. The way these standards are structured and formulated relate to quality criteria such as transparency, consistency, comparability, fairness and few more. The relation between standards and quality assurance is a two-way relation with the standards assuring quality of the system and the quality criteria ensuring useful and measurable standards. Quality criteria support, next to that, a uniform validation process that is yet responsive to the candidate.

Process, Standards ⟶ *Supportive environment*

The results of the validation process and the standards have a relation with the supportive environment. Both elements must be considered in the mandatory common (legal) basis for the validation system. Additional, the standards and the results relate the validation process to the DQR. The allocation of the standards and the results should be considered in the discussion of the DQR.

Process ⟷ *Goals*

The relation between the validation process and the goals is a two-way relation. The validation process conduces to the goals of the validation system. All elements of the validation process have the potential to contribute to the achievement of mobility, visibility, awareness and appreciation. But the extent to which the elements of the process contribute to the single goals depends strongly on the candidate and his or her personal goals. The process is in parts responsive to the goals chosen by a candidate.

Infrastructure ⟷ *Quality assurance*
↘ *Supportive environment* ↗

There is a two-way relation between the infrastructure and the quality assurance of the validation system. The infrastructure is supposed to provide, for example, independent accreditation and audit institutions that ensure the quality of the validation providers. For this the institutions need quality criteria. Both the infrastructure and the quality assurance have a relation with the supportive environment. The mandatory common basis for the validation system needs to be established in the supportive environment by the relevant actors, who need to comply with it in the infrastructure (e.g. the acceptance of the results of the validation process). This common basis needs to emphasize the necessity for a quality assurance system and states (a part of) the quality criteria to ensure a basic quality that all actors need to comply with. Next to that, the infrastructure, and especially the information centres and the network, are useful tools for the publicity work of the validation system.