CARL VON OSSIETZKY university OLDENBURG

Kompetenzbereich Anrechnung

01

General Recommendation for the Award of Credit

Advanced Training Programme JOSEF

Joint Strategy and Technology Education Facility

ibe Wolfgang Schulenberg-Institut für Bildungsforschung und Erwachsenenbildung

Fraunhofer ACADEMY

giz Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

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Kompetenzbereich Anrechnung

The *Kompetenzbereich Anrechnung* at the Carl von Ossietzky University Oldenburg is promoted as part of the model project *Offene Hochschule Niedersachsen* by the Lower Saxonian Ministry for Science and Culture. Central target of this project is to improve the collaboration between institutions of higher education and providers of adult education in Lower Saxony.

This is to be achieved through:

- the compilation of general recommendations for improving recognition and award of credit of advanced training programmes,
- the support of the providers of adult education in the quality development of their offerings,
- the improvement of advanced training through modularisation and focus on learning outcomes.

Wolfgang Schulenberg-Institut für Bildungsforschung und Erwachsenenbildung (ibe)

The *Wolfgang Schulenberg-Institut für Bildungsforschung und Erwachsenenbildung (ibe)* (Wolfgang Schulenberg Institute of Educational Research and Adult Education) was founded in 1986 by members of the Carl von Ossietzky University Oldenburg and representatives of adult education associations in Lower Saxony.

The institute considers itself as a research and service centre at the interface of vocational training and academic research. Since the end of 2005 the institute is engaged in the accreditation and award of credit of learning outcomes of vocational training for tertiary education programmes.

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The Advanced Training Programme "JOSEF"

- Joint Strategy and Technology Education Facility -

Focus

"JOSEF - Joint Strategy and Technology Education Facility" is an e-learning programme which was developed by the Fraunhofer Academy in cooperation with the *Deutsche Gesellschaft für Internationale Zusammenarbeit (German Agency for International Cooperation) (GIZ)* as a fictitious virtual research institute. As an institute, JOSEF is simulated to be set in a South American country and supports the industry of the region in the improvement of its innovation processes. The institute employs a staff of approximately 30 people. International cooperation with leading partner organisations (such as Fraunhofer, Germany) enriches the institute's range of services. The sustained success of the institute enables the hiring of new staff members.

The learner assumes the role of a new staff member in a project who has to go through various divisions during the initial training phase in order to become familiar with standard techniques and make first experiences with the customers.

Within the scope of the e-learning programme, 60 hours of study are implemented using a user interface in English language. Brief videos that are integrated into the courses are being used as an introduction to the assignments. The virtual institute is divided into four parts:

First, the JOSEF institute itself is introduced; the subsequent steps comprise study units that address innovation management, technology management, and new technologies. In addition to the 20 missions, a glossary covering over 200 definitions for selected subject areas and a library with over 100 documents are provided.

Within the scope of the International Leadership Training (ILT) the JOSEF programme serves as a preparatory course for the participants. By creating the ILT the GIZ has established a programme that qualifies leaders from companies and organisations of developing countries and emerging economies to foster and implement processes of change in their countries of origin.

An ILT-course consists of diverse training periods in the countries of origin and in Germany:

- preparatory, extra-occupational period (6 months),
- attendance period in Germany (12 month),
- and transfer period in country of origin (6 month).

Depending on the countries and sectors targeted by the ILT, each programme is adapted to the specific challenges of a region and the participants' main focus of interest. One among these programmes is "InnoTALK". Organisations and companies that cooperate with the *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)* in international projects are able to nominate and register qualified candidates from the Latin American / Caribbean Region (LAC) for the International Leadership Training (ILT) "InnoTALK" (Promotion of Innovation and Technology in Latin America and the Caribbean).

Admission Requirements

Admission to the advanced training programme is dependent on the fulfillment of the following criteria:

- University degree,
- at least three years of professional experience in the realm of promoting innovation and technology,
- a position in middle management with perspective for promotion,
- aged between 25 and 40 (exemptions contingent),
- sufficient English skills to read and understand scientific literature as well as coping with the requirements of studying by using the e-learning platform.

Programme Modules

- Innovation Management - Module I
- Technology Management - Module T
- New Technologies - Module N

All programme modules listed above predominantly draw upon e-learning activities in the participants' countries of origin. A six month time period is envisioned for the extra-occupational accomplishment of the programme modules as well as a German course level A1.

Duration

The advanced training runs for 14 weeks.

Workload and Attendance

- Reading / discussions using the shared workspace's blog and chat functions /working on assignments: 60 hours of studying (3 modules, each with a 20 hour workload)
- Add-on: introduction utilizing three introductory "J-Missions"
- Weekly 1 ½ hour e-meetings via "Centra"
- adding up to 21 hours of online attendance

Assessment of Training Success

Written individual and group online assignments.

Certificate

Upon successful completion of the advanced training, a certificate is issued by the *Deutsche Gesellschaft für Internationale Zusammenarbeit,* Germany (since 2010).

Organising Institutions

GIZ – Deutsche Gesellschaft für Internationale Zusammenarbeit, Germany: Planning and implementation of the International Leadership Training (ILT) "InnoTALK" (Promoting Innovation and Technology in Latin America and the Caribbean)

Commissioner of the JOSEF programme (www.giz.de); further information about the InnoTALK programme can be found at www.gc21.de/innotalk

Fraunhofer Academy: Conceptual design, development and implementation of the e-learning programme JOSEF as part of the ILT

By making use of its technology-oriented range of courses, the Fraunhofer Academy builds the capacities of actors of companies of various sizes for current and future lead markets. In cooperation with renowned partners, degree programmes, certified training programmes and series of seminars are being developed and brought to the market.

The strengths and expertise of individual Fraunhofer institutes are reflected in the content of the range of the offered advanced training programmes.

www.academy.fraunhofer.de

ars navigandi: E-learning development agency Munich, Germany; technical development JOSEF

www.arsnavigandi.de

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Recommendation for the Award of Credit

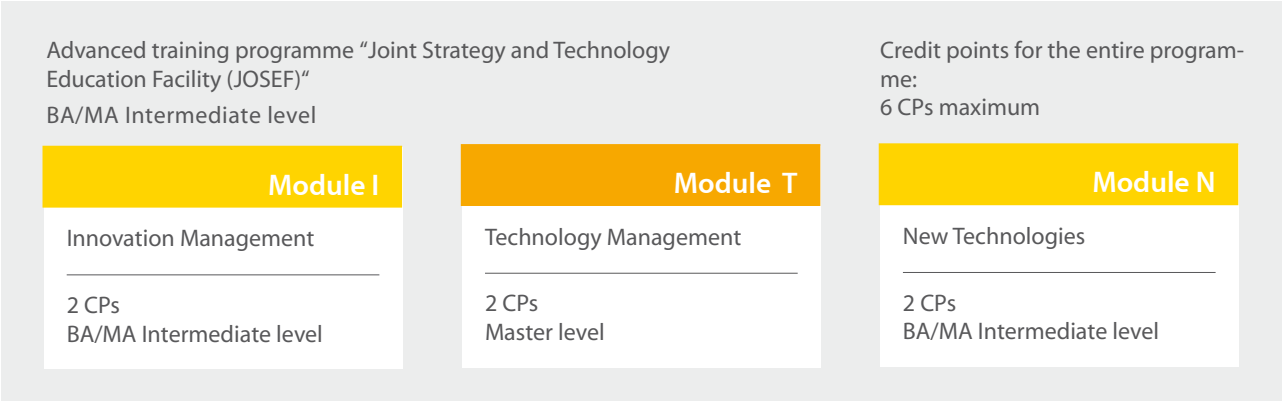

Figure 1: Overview on recommendation for the award of credit

It is recommended to award the advanced training programme "JOSEF" for academic degree programmes with up to 6 ECTS / credit points maximum.

The advanced training programme is rated as Bachelor-Master Intermediate level. Hence, the advanced training programme can be awarded with credit without limitations for Bachelor programmes. However, the award of credit for Master programmes is only recommended with limitations[1]. The maximum number of credit points awarded should not exceed 6 CPs.[1]

The advanced training programme consists of three learning units. Each was assessed with a separate workload (CPs) and level:

- The programme module "Innovation Management (I)" was rated as Bachelor-Master Intermediate level. An award of credit for Master programmes is only recommended with limitations; an award of 2 CPs maximum is recommended.
- The programme module "Technology Management (T)" was rated as Master level. Provided there is an adequate content match with the learning outcomes of the respective Master programme, credit can be awarded without limitations. An award of 2 CPs maximum is recommended.
- The programme module „New Technologies (N)" was rated as Bachelor-Master Intermediate level. An award of credit for Master programmes is only recommended with limitations; an award of credit with a maximum of 2 CPs is recommended.

[1] The combined total of course modules at BA/MA Intermediate level within a Master 's programme (including the award of credit for the advanced training programme) should in general not exceed 30 CPs.

JOSEF I – Innovation Management

Module Code	Module Name	MLI-Level	ECTS (max.)
JOSEF I	Innovation Management	5.4	2
Teaching Method	**Part of Examination**	**Language**	**Attendance Requirements**
Online	JOSEF complete	English	Not specified
Method of Examination	**Allowed Time**	**Place**	**Grading Scale**
Online assignments	Not limited	Not specified	n/a

Learning Outcomess JOSEF

Innovation Management

- Learners are capable of explaining an enterprise's innovation activities within a superordinated innovation system.
- Learners are capable of classifying an enterprise's innovation activities into a superordinated innovation system.
- Learners are familiar with academic technology transfer systems.
- Learners know future-oriented longitudinal studies.
- Learners are familiar with methods for assessing an enterprise's innovation processes.
- Learners are familiar with the main problem areas of innovation processes.
- Learners are familiar with techniques for evaluation of an enterprise's innovation process.
- Learners are capable of explaining methods for the acceleration of innovation processes.

JOSEF T – Technology Management

Module Code JOSEF T	Module Name Technology Management	MLI-Level 5.5	ECTS (max.) 2
Teaching Method Online	Part of Examination JOSEF complete	Language English	Attendance Requirements Not specified
Method of Examination Online assignments	Allowed Time Not limited	Place Not specified	Grading Scale n/a

Learning Outcomes JOSEF

Technology Management

- Learners are familiar with important factors of a technology management system.
- Learners are capable of explaining their country of origin's technology policy.
- Learners are capable of applying methodological tools of technology monitoring.
- Learners are capable of handling methods of technology foresight.
- Learners are familiar with different methods of project management.

JOSEF N – New Technologies

Module Code	Module Name	MLI-Level	ECTS (max.)
JOSEF N	New Technologies	5.5	2
Teaching Method	**Part of Examination**	**Language**	**Attendance Requirements**
Online	JOSEF complete	English	Not specified
Methodof Examination	**Allowed Time**	**Place**	**Grading Scale**
Online assignments	Not limited	Not specified	n/a

Learning Outcomes JOSEF

New Technologies

- Learners are capable of explaining the subjects of greenhouse effect, climate change and energy supply.
- Learners are capable of drafting proposals for meeting their country of origin's demand for mobility.
- Learners are familiar with the concept of sustainability and are capable of explaining the dilemmas inherent in the concept.
- Learners are capable of contributing to the development of a project scenario for electric mobility within the context of sustainability.
- Learners are familiar with technology assessment.

Advice for Providers of Advanced Training Programmes and Graduates

The *Kompetenzbereich Anrechnung* prepares recommendations for the award of credit of non-university training programmes. However, it has no influence on the implementation of its recommendations by tertiary education institutions. The decision about granting an award of credit of advanced training programmes lies generally with the person in charge of a degree programme at the respective institution. Degree programmes can reject the award of credit of non university education or also grant an award of credit that deviates from this recommendation.

The number of credit points that can be awarded and are presented in this recommendation is a maximum value which normally can only be granted in cases of extensive overlap between the learning outcomes of the advanced training programme and the degree programme. A lower degree of overlap of content can lead to a reduced award of credit.

Even institutions of higher education willing to grant an award of credit based on this recommendation might be liable to restrictions for the establishment of possibilities for an award of credit that result from legal or other guidelines. For the establishment of an award of credit in accordance with the present recommendation, it is normally necessary to adjust the university and college act (of the federal state) as well as the respective programme's examination regulations.

This recommendation for the award of credit is to serve as a reliable and quality-assured basis for the implemenatation of possibilities for awarding credit. The implementation of this recommendation should also be carried out in a quality-assuring manner. A comprehensive overview of advice is offered by, for example, the "*Leitlinie für die Qualitätssicherung und Verfahren zur Anrechnung beruflicher und außerhochschulisch erworbener Kompetenzen auf Hochschulstudiengänge*"[2] (ANKOM, 2008).

[2] Guidelines for Quality Assurance and Methods for the Accreditation of Prior Learning Acquired Through Vocational and Non-university Education for Degree Programmes

Advice for Institutions of Higher Education and Degree Programme Coordinators

The general recommendation for the award of credit of the "JOSEF" programme addresses institutions of higher education which offer Bachelor and Master programmes in accordance with the European Higher Education Area framework. This addresses the majority of all degree programmes in the so-called "Bologna area" (Bologna Working Group, 2005).

The purpose of this recommendation for the award of credit is to offer institutions of higher education nonpartisan certified information about the workload (CPs) and the academic level of learning units of non-university education programmes. This information can facilitate the award of credit of such learning outcomes.

The *Kompetenzbereich Anrechnung* recommends that all institutions of higher education and their programme coordinators take the information offered in this recommendation into account and to grant the graduates of the advanced training programme "JOSEF" an appropriate award of credit of their learning outcomes.

The award of credit means that students, who already have a certification of achievement of the learning outcomes, are exempt from certain parts of degree programmes (study modules).

Preferably, the award of credit is carried out in the form of blanket accreditation. Thus, based on the present recommendation for the award of credit, all graduates of the advanced training programme should receive a guaranteed number of credit points. Possibilities for awarding non-university programmes with credit should be publicised (e.g. on the degree programme's homepage).

It should be specified which parts of the study programme can be omitted due to the award of credit.

Not all legal systems concerning higher education in the Bologna area permit an award of credit as recommended on the basis of this assessment. Thus, prior to establishing a system for the award of credit and then awarding credit, the university's staff in charge needs to scrutinise the respective legal foundations for potential limitations resulting from regulations.

The "Oldenburg" Model for the Accreditation of Prior Learning

Between 2004 and 2007, the Carl von Ossietzky University Oldenburg participated in the "*ANKOM Initiative*" ("Award of Credit of Vocational Competencies for Degree Programmes") by the German Federal Ministry of Education and Research (BMBF) as one of twelve pilot projects (Hartmann et al., 2006).

The pilot projects of the ANKOM were enabled by an enactment of the German *Kultusministerkonferenz*[3] in the year 2002. This enactment already suggests a design for a system for the award of credit. It is stated that

"Knowledge and skills that were acquired outside the higher education system can be awarded with credit (if applicable in the form of blanket accreditationd) for degree programmes in higher education if […] their content and level are equivalent to the part of the degree programme that is to be substituted […]" (KMK, 2002).

The award of credit of competencies acquired through vocational and professional practice is being practised at University of Oldenburg since 2006. At the *Wolfgang Schulenberg-Institut für Bildungsforschung und Erwachsenenbildung* at the Carl von Ossietzky University Oldenburg, a quality-assured method for the assessment of the award of credit of vocational learning outcomes for degree programmes was developed in line with the ANKOM initiative (Müskens, 2006).

This method, a so-called equivalence check, has already been used for assessing numerous advanced and vocational training certificates. The equivalence check is mainly focused on identifying those parts of a degree programme and an advanced training programme which are equivalent in content and level.

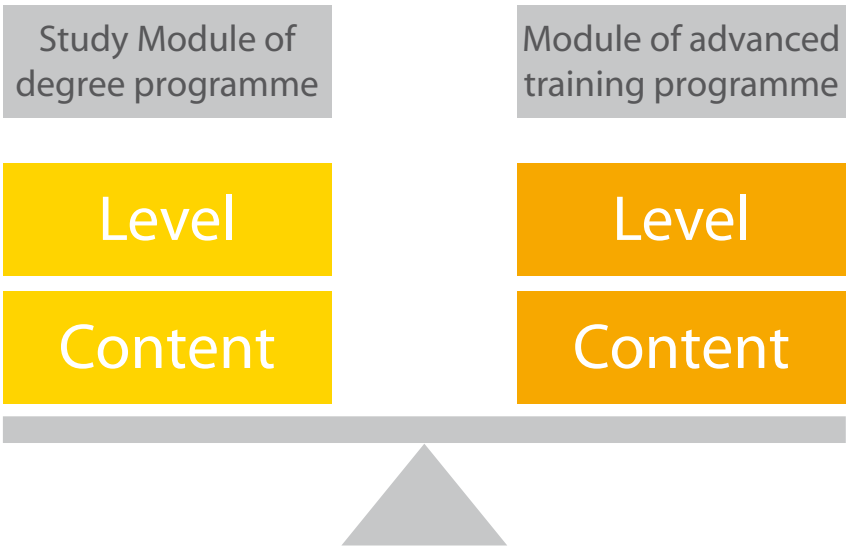

Figure 2: Equivalence check

For further Information on the "Oldenburg" Model for the Accreditation of Prior Learning visit
www.anrechnung.uni-oldenburg.de

[3] Standing Conference of German Ministers of Education (federal States and federal ministers)

General Recommendation for the Award of Credit

This general recommendation for the award of credit is based on the results of an equivalence check between the advanced training programme "JOSEF" and a reference degree programme.

In the equivalence check, the learning outcomes of the advanced training programme were compared with those of selected study modules of the reference degree programme.

Using the results of this equivalence check, the workload of the training programme and its respective learning units were estimated.

Furthermore, the level of the advanced training programme and its learning units were estimated using the "Module Level Indicator (MLI)" method (Gierke & Müskens, 2009).

The results of the equivalence check conducted by the expert examiner were analysed by the staff of the *Kompetenzbereich Anerkennung* and form the basis for this recommendation for the award of credit.

Additionally, this general recommendation for the award of credit includes further information about the advanced training programme that is comparable to the content of a module guide of a degree programme. Therefore, it can also be perceived as a "translation of the advanced training programme reflecting tertiary education guidelines".

The equivalence check procedure as well as the tools and methods applied comply entirely with the "*Leitlinien für die Qualitätssicherung und Verfahren zur Anrechnung beruflicher und außerhochschulisch erworbener Kompetenzen auf Hochschulstudiengänge*" (ANKOM, 2008).

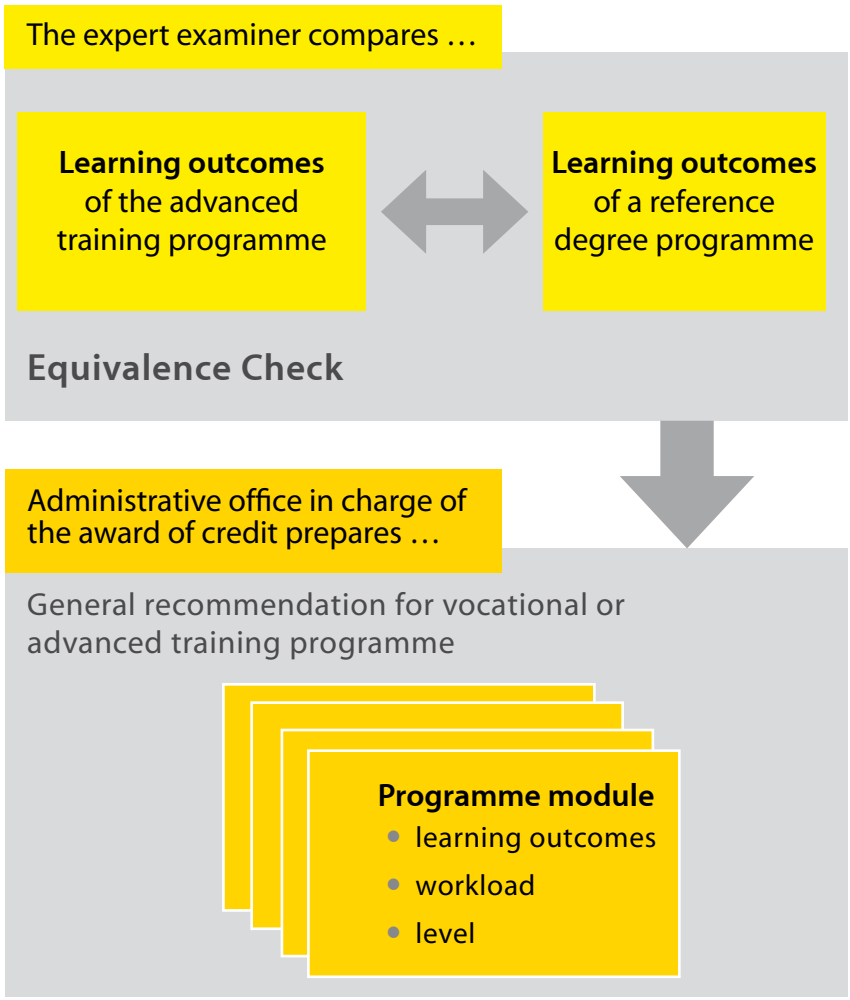

Figure 3: Development cycle of the preparation of a general recommendation for the award of credit (diagrammatic)

The Reference Degree Programme "*Innovation Management*"

The part-time, extra-occupational Master programme "Innovation Management" offered by the Carl von Ossietzky University Oldenburg was chosen as the reference degree programme for the equivalence check.

This extra-occupational Master programme was conceived in an interdisciplinary and cross-institutional manner and is directed at future leaders in the field of innovation management. The programme's blended learning design is supplemented with attendance periods, learning networks and study materials. The primary goal is the capacity building of (future) leaders in the field of innovation management, in particular, from technologically strong sectors. The degree programme started in the winter semester 2009/10.

Admission Requirements

- First academic degree (Bachelor/Diploma or Master of Arts) and
- one year of professional experience.

Workload

- 120 CPs,
- compulsory section with overall 96 CPs and elective section with 24 CPs.

Qualification Goals

Graduates are qualified to significantly initiate and shape innovative strategies and projects within their company.

Graduates are qualified to relate their practical experiences in innovation management to the theoretical foundations and to enhance them.

Graduates are all-rounders in managing innovations and change.

Degree Awarded

Master of Arts (M.A.)

Accreditation

On June 21, 2010, the Master programme "Innovation Management" was awarded with the quality seal of the Accreditation-, Certification- and Quality Assurance Institute ACQUIN[4].

Selected Study Modules

Based on brief descriptions, the expert examiner selected the following study modules due to the expected congruence between their learning outcomes and those of the advanced training programme:

- Innovation and Knowledge Management (elective section 6 CPs),
- Innovation and Marketing (compulsory section 6 CPs),
- Consequences of Innovation and Social Responsibility (compulsory section 6 CPs).

For further information visit

www.innovationsmanagement.uni-oldenburg.de

[4] www.acquin.org/en/index.php

Equivalence Check

The potential equivalence of the learning outcomes of the advanced training programme "JOSEF" and those of university degree programmes was assessed through the application of two methodological tools, namely the Learning Outcome Chart (LOC) and the Module Level Indicator (MLI).

The Learning Outcome Chart (LOC) shows the overlap in content of the learning outcomes of the advanced training programme and the degree programme. The Module Level Indicator (MLI) is being used to assess the academic level of the learning units and modules. A more detailed description of the methodological tools is presented in the respective introduction to the results of this assessment.

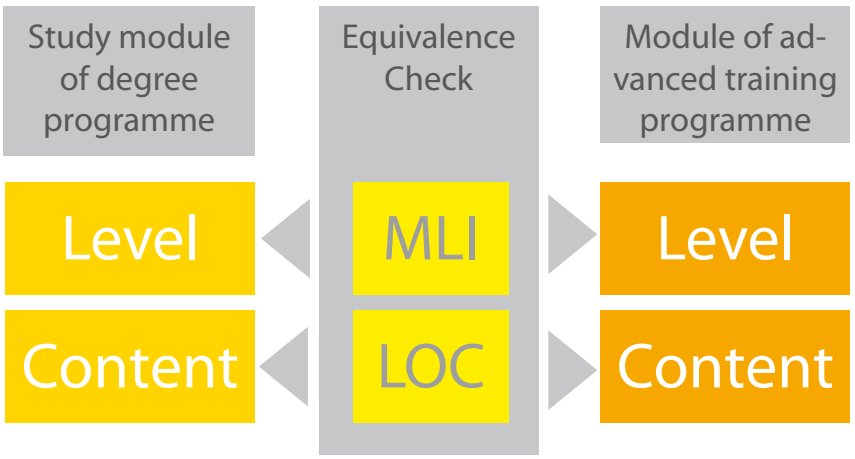

Figure 4: Methodological tools of the "Oldenburg" Model

Materials Used For the Equivalence Check

Basis for the assessment of the advanced training programme "JOSEF":

- The complete online learning environment "JOSEF" including all teaching literature, multimedia elements and online assignments,
- two examples of individual assignments,
- two examples of group assignments.

Basis for the determination of learning outcomes of selected study modules of the reference degree programme:

- study materials (text volumes),
- four to five examples of online assignments per module,
- one to two exemplary solutions of case studies per module,
- examination regulations,
- schematic diagram of module structure and process.

Summary of the Comparison of Content

Overlap of learning outcomes of selected study modules of the reference degree programme and learning outcomes of the modules of the advanced training programme

The expert examiner determined both, the coverage of the learning outcomes of the training programme by the reference degree programme and the coverage of the learning outcomes of the reference degree programme by the training programme.

In order to do so, he determined the learning outcomes of selected thematic areas of the training programme and analysed to what extent these are covered by learning outcomes of the reference degree programme. The same procedure was then repeated vice versa.

Study modules of degree programme *"Innovation Management (M.A.)"*

"JOSEF" programme modules

	Innovation and Knowledge Management	Innovation and Marketing	Consequences of Innovation and Social Responsibility	Total
Innovation Management	40.63 %	41.88 %	0.00 %	82.51 %
Technology Management	19.09 %	19.09 %	30.00 %	68.18 %
New Technologies				

Figure 5: Coverage of the learning outcomes of the advanced training programme's modules by the study modules of the degree programme

Annotation

Due to the fact that the Master degree programme does not offer a study module that is complementary to the module "New Technologies" in the advanced training programme, a comparison of content match for this module was not possible.

Study modules of degree programme *"Innovation Management (M.A.)"*	"JOSEF" programme modules: Innovation Management	Technology Management	New Technologies	Total
Innovation and Knowledge Management	20.00 %	9.17 %	0.83 %	30.00 %
Innovation and Marketing	10.59 %	16.47 %	0.00 %	27.06 %
The Consequences of Innovation and Social Responsibility	0.00 %	0.00 %	9.09 %	9.09 %

Figure 6: Coverage of the learning outcomes of the study modules of the degree programme by the advanced training programme modules

Assessment of the Advanced Training Programme Modules' Workload Based on the Results of the Comparison of Content

The outcomes of both directions of the comparison of content allow for estimation of the workload of the advanced training programmes' modules.

The estimation results in:

Innovation Management = 2.22 CPs (rounded to 2)

Technology Management = 2.26 CPs (rounded to 2)

It was not feasible to directly estimate the workload of the programme module "New Technologies" due to a lack of coverage of its learning outcomes by those of the reference degree programme. Since the three modules of the advanced training programme require approximately the same working efforts, the workload of the module "New Technologies" has also been estimated with 2 CPs.

All in all the advanced training programme "JOSEF" comprises a workload that is worth 6 CPs.

The estimation of credit points was based on this formula:

$$CP\ (MAT) = \sum_{i=1}^{k} [CC(CU_i\ by\ MAT) * CP(CU_i)] \,/\, \sum_{i=1}^{k} CC(MAT\ by\ CU_i)$$

CP: Credit Point

MAT: Module of the advanced training programme

k: Number of course units (of the degree programme) that have a substantial match with the MAT (JOSEF module)

CC: Coverage of content in percent

CU: Course unit of degree programme

Level Assessment – The Module Level Indicator (MLI)

The level comparison of degree programmes' study modules and advanced training programmes' modules requires a standard of comparison that is applicable across different fields of education. However, views about standards in vocational and academic education differ considerably. Cross-educational qualifications frameworks such as the European Qualifications Framework for lifelong learning (EQF) attempt to integrate the different views about educational standards (EU Parlament, 2007). They are, however, a merely adequate methodological tool for the assessment of the level of degree programmes' study modules or advanced training programmes' modules.

Therefore, the ANKOM project "*Qualifikationsverbund Nord-West*"[5] developed the methodological tool "Module Level Indicator" (MLI) which enables the assessment of the level of a learning unit or partial qualification while at the same time being aligned with the comprehensive and cross-educational standards of the EQF (Müskens & Gierke, 2009).

The MLI is a clearly structured assessment tool which comprises 51 items. The criteria that are to be assessed by the expert examiner refer primarily to the knowledge and skills being taught as well as the method used for the assessment of the learning success of a particular learning unit.

[5] A working group in Northwestern Germany involved with the development of methodological tools for the award of credit of vocational training programmes for university education, consisting of members from universities and institutes of vocational training.

The 51 items for one particular learning unit are being merged into nine psychometrically developed and reliable outcome scales:

- The scale "Broad and Up-to-date Knowledge" describes the scope, profoundness and up-to-dateness of the knowledge and skills imparted in the learning unit.
- The scale "Critical Understanding" describes the extent to which the theories, models and methods imparted in the learning units are being reflected upon critically.
- The scale "Interdisciplinarity" describes to what extent a particular learning unit is related to other professions or disciplines, and to what extent it is able to teach learners how to handle challenges in interdisciplinary contexts.
- The scale "Problem Solving" describes if, and the extent to which, the learners are confronted with complex problems in the learning units that they need to solve independently through the application of cognitive and/or practical skills.
- The scale „Practical Relevance" describes if, and to what extent, the study materials and assessments of learning success are related to the real demands of practice and practical problems.
- The scale "Innovation" describes if, and to what extent, the methods for the assessment of learning success of a learning unit confront students with novel and original problems that require creative approaches for finding a solution.
- The scale "Autonomy" describes the scope of independence and assumption of responsibility that is expected from the learners in the learning units.
- The scale "Consideration of Ethical and Social Issues (Ethics)" describes if, and to what extent, social and ethical issues are being addressed in the learning units.
- The scale "Communication" describes to what extent students are being taught how to communicate information, ideas, problems and approaches for their resolution to fellow students, experts and novices of the field.

The level assessment at hand used the current MLI version 2.1.

Knowledge	
Broad and Up-to-date Knowledge	The module comprises at least some profound inventory of knowledge that is state of the art within the field of expertise.
Critical Understanding	The module imparts an awareness of the limitations of the acquired skills and knowledge.
Interdisciplinarity	The module comprises interdisciplinary problem statements whose resolution is based on the application of knowledge from various disciplines.

Skills	
Problem Solving	The learning requirements and accordingly the examination assignments require a comprehensive application of cognitive and practical skills.
Practical Relevance	The module imparts knowledge and skills that can be directly applied in practice.
Innovation	The learning requirements comprise the development of new strategic approaches.

Competence	
Autonomy	The learning requirements call for independent action and for being proactive.
Consideration of Ethical and Social Issues	When resolving a problem, the students demonstrate consideration of others and solidarity with people who might be affected by their actions.
Communication	The students have proven that they are capable of communicating their comprehension of their field of expertise to other individuals.

Figure 7: Scales of the MLI version 2.1 with sample items

The Levels

There is also the option to merge the nine individual result scale values of the MLI to one total value. This total value describes the overall level of a learning unit. Both the total value and the individual result scales can be used as a basis for the determination of an award of credit for a module.

The MLI values are in line with the EQF scales. Thus, higher values mean a higher academic level.

As a result of the hitherto conducted assessment it can be expected that a clear assignment of an accurate standard for learning units cannot be realised for both Bachelor and Master programmes. Rather, there are level intervals that merge into one another. The results of a MLI assessment can be categorised into five different level intervals:

MLI Total Value < 3.5

The level of the assessed learning unit is considerably below that of a standard Bachelor study module. Learning units of this category should not be awarded with credit for Bachelor or Master programmes. The composition of the MLI scales indicates options for a restructuring of the learning unit which could lead to an up-rating of the MLI level. Such restructurings could include the content of the learning units, the methods for imparting knowledge and / or the method for assessing learning success.

Bachelor Entry Level
(3.5< Total MLI Value <4.5)

The level of the assessed learning unit equates the level of typical study modules during the first semesters of a Bachelor programme. Learning units of this category should only be awarded with credit if the combined total of the modules with Bachelor entry level (including the module for the award of credit) does not exceed 60 CPs. This module should not be awarded with credit for Master programmes.

Bachelor Level
(4.5 < Total MLI Value < 5)

The level of the assessed learning unit equates that of a typical learning unit during the intermediate phase of a Bachelor programme. Provided there is an appropriate overlap of content, the learning unit should be awarded with credit for Bachelor programmes. The learning unit should not be awarded with credit for Master programmes.

Bachelor-Master Intermediate Level
(5 < Total MLI Value < 5.5)

The level of the assessed learning unit equates that of an advanced Bachelor programme study module or that of a typical study module at the beginning of a Master programme. Therefore, an award of credit for Bachelor programmes is possible, provided there is an appropriate overlap of content. An award of credit for Master programmes should only be applied when the combined total of the modules with Bachelor-Master intermediate level (including the module for the award of credit) does not exceed 30 CPs.

Master Level
(5.5 < Total MLI Value)

The level of the assessed learning unit equates to a standard Master study module. Therefore, the learning units should be awarded with credit for Bachelor and Master programmes, provided there is an appropriate overlap of content.

JOSEF - Module N "New Technologies"

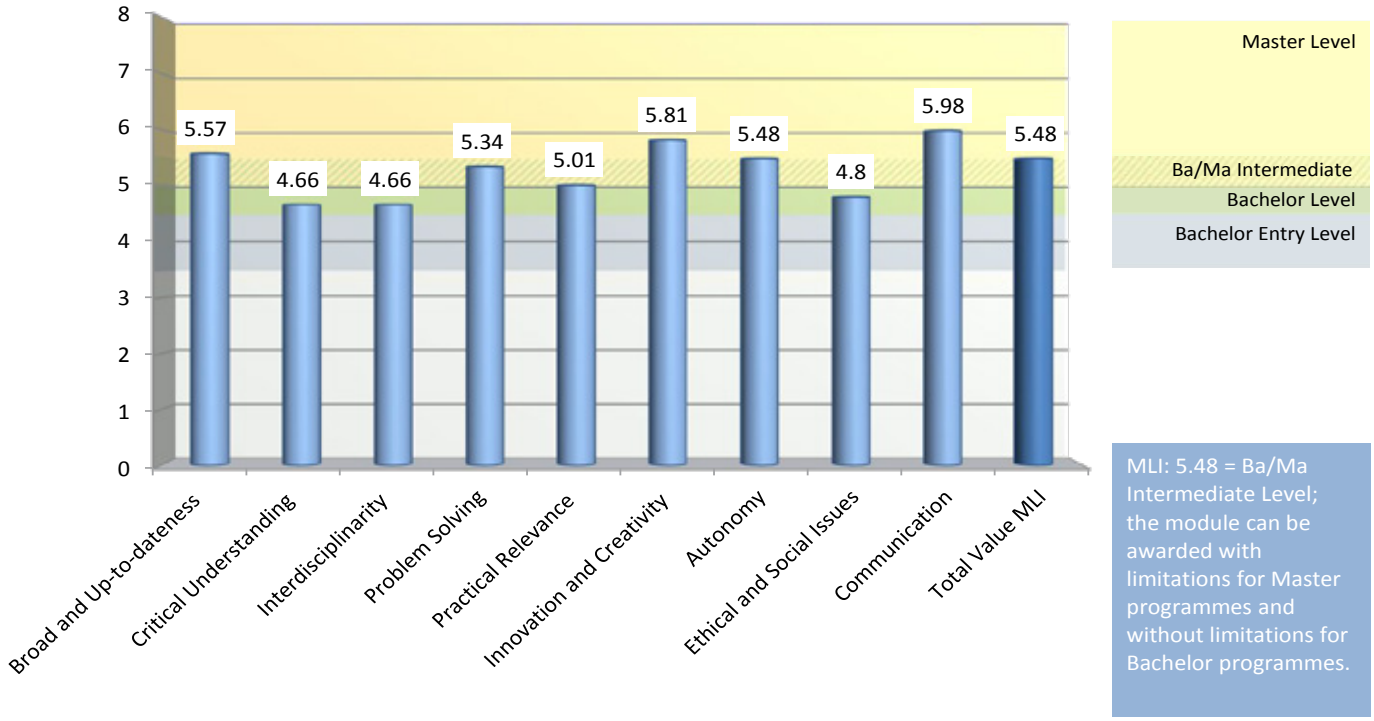

Figure 8: Results of the MLI assessment

JOSEF - Module I "Innovation Management"

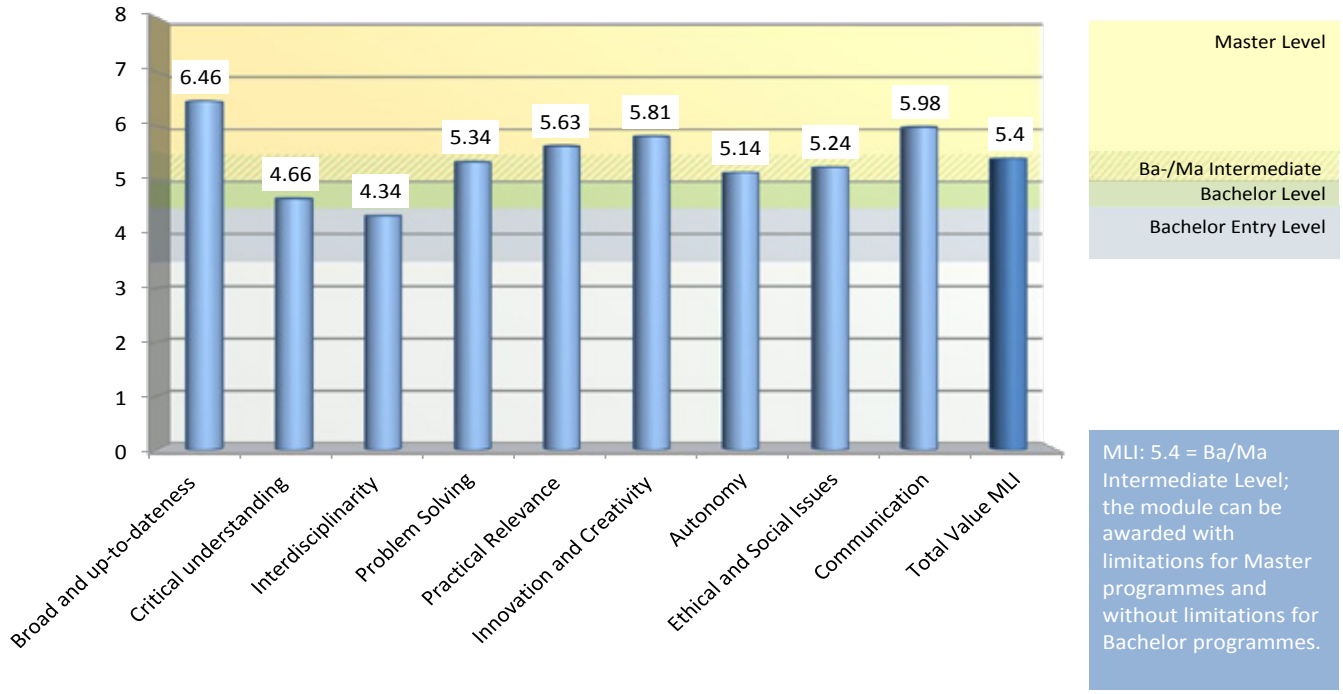

Figure 9: Results of the MLI assessment

JOSEF - Module T "Technology Management"

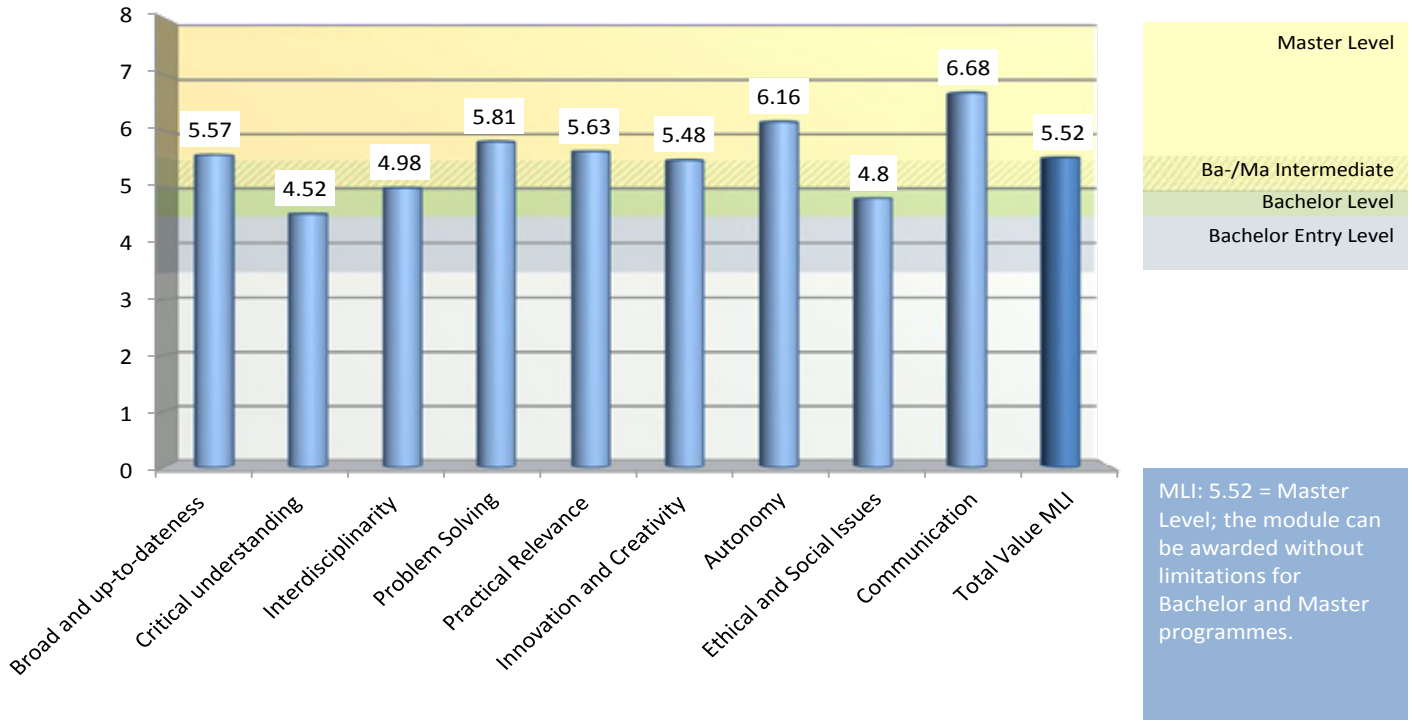

Figure 10: Results of the MLI assessment

When Should Learning Units of Non-University Education Be Awarded With Credit for Tertiary Education Programmes?

In a recommendation by the *Kultusministerkonferenz*[6] of June 28, 2002, regarding the award of credit of skills and knowledge acquired through non-university education for degree programmes it is stated that:

"Knowledge and skills acquired outside the higher education system can be awarded with credit (if applicable in the form of blanket accreditation) for higher education study programme if

- all admission requirements for university entrance are met (where appropriate exemptions can be made for outstanding professionals who do not fulfill these requirements)
- their content and academic level are equivalent to the part of the degree programme that is to be substituted
- the quality and content criteria for the substitution of study modules with knowledge and skills that were acquired outside higher education programmes are assessed as part of a certification which complies with the principles of the new standardization system of tertiary education.

Knowledge and skills that were acquired outside higher education programmes can only substitute 50% of a degree programme maximum" (KMK, 2002).

This recommendation by the KMK demands both an equivalence in content and a comparable level of the learning unit and the study module that is to be substituted in order to be awarded with credit.

This recommendation for the award of credit contains information about the level of the learning units of the assessed advanced training programme "JOSEF". Regarding the substitution of subject-specific contents of a degree programme, it is inevitable to also assess the equivalence in content of the advanced training programme and the degree programme's study modules. The assessment's basis is formed by the learning outcomes of the advanced training programme that were identified by the comparison of content. Awarding credit for a study module is recommended when not less than 70 % of its learning outcomes are covered by the advanced training programme.

[6] Standing Conference of German Ministers of Education (Federal States and federal ministers)

The Expert Examiner's Appraisal

By Matthias Schoof (Dipl.-Ing.)

"Both the assessment of the content match and the assessment of the differences between the learning outcomes of the analysed advanced training programme and those of the reference degree programme can be summarised as follows:

Major differences result from a lack of comparable contents in the Master programme for the JOSEF module "New Technologies". The module items "Benchmarking of New Technologies" and "Focus Area Mobility – Sustainability – Energy and Electro Mobility" have no comparable content in the Master programme. Furthermore, the topic "National Innovation Systems" which constitutes one of six missions in the JOSEF module "Innovation Management" and in which the national innovation systems of different countries are treated, is not taken into account in a comparable manner in the Master programme. Since the contents of these modules are highly suitable with the Master programme, they could well find their way into a module of the elective section. Therefore, I recommend an award of credit of the workload despite a missing content match.

A higher degree of equivalence was found between the JOSEF modules "Innovation Management" and "Technology Management" and the Master programme study modules "Consequences of Innovation and Social Responsibility", "Innovation and Marketing" and "Innovation and Knowledge Management". The assessment did not identify any complete content equivalence between one particular JOSEF module and a specific Master programme module. A content match of about 50 % can be found between the JOSEF modules "Innovation Management" and "Technology Management" and their comparable counterparts of the Master programme, namely "Innovation and Marketing" and "Innovation and Knowledge Management", when they are combined and then compared to the respective Master modules.

A level comparison of the Master programme's study modules that were selected due to their content match with the JOSEF modules showed that in particular the examples of the examination performance used for the assessment confirm that they have almost the same academic level.

Based on the self-estimated workload of 180 hours by a dedicated and ambitious participant, the high degree of content match and the relatively low difference in academic level, I recommend a general award of credit with 6 CPs. However, I do not recommend the award of credit for a particular study module of the Master programme."

The Expert Examiner

In the person of Mr. Matthias Schoof, a nonpartisan expert examiner was commissioned for the equivalence check. Matthias Schoof holds a diploma in engineering and is the director of Technology Transfer and the head of the Centre for Vocational Training at the *Fachhochschule Emden-Leer* (University of Applied Sciences).
Mr. Schoof holds a diploma in engineering with a specialisation in mechanical engineering from the *Technische Universität Braunschweig* (University Braunschweig – Institute of Technology).

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Certificate – Advanced Training Programme "JOSEF"

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

CERTIFICATE

It is hereby certified that

Ms. Adriana Lucía García López

has successfully completed the

Joint Strategy and Technology Education Facility (JOSEF),
e-learning course in the GIZ-programme
"InnoTALK- Promotion of Innovation and Technology in Latin America and the Caribbean".
This e-learning course was developed and realized in cooperation between GIZ and the
Fraunhofer Academy, Germany.

December 2010 until March 2011

Content

- Innovation Management (Innovation System Management, National Innovation Systems, Consulting of a Technology transfer Office, Future oriented long-term Studies, Evaluating the Innovation process, Accelerating the Innovation Process)
- Technology Management (Introduction to Technology Management, Technology Monitoring, Foresight Techniques (Roadmaps and Scenarios), Technology Foresight, Project Management)
- New Technologies (Energy and Climate Change, Mobility and Transportation, Sustainability, Green Energy, Electro Mobility, Avoiding Environmental Damages)

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Bonn, 28.03.2011

Michael Funcke-Bartz
Head of Division
Sustainable Technology, Industrial and Urban Development, GIZ

Dr. Joachim Langbein
Senior Project Manager InnoTALK

References

Barabasch, A., Hartmann, E. A., Rauner, F., Müskens, W., Tutschner, R. & Sava, A. (2011). Der Übergang zwischen Berufsbildung und Hochschulbildung – Nationale Ansätze und internationale Perspektiven. In: T. Bals, H. Hinrichs, M. Ebbinghaus & R. Tenberg (Hrsg.), Übergänge in der Berufsbildung nachhaltig gestalten: Potentiale erkennen – Chancen nutzen, 383-403. Paderborn: Eusl-Verlag.

Bologna Working Group on Qualifications Frameworks and Ministry of Science Technology and Innovation (2005). A Framework for Qualifications of the European Higher Education Area.

Eilers-Schoof, A. & Müskens, W. (2013). Vom Äquivalenzvergleich zur allgemeinen Anrechnungsempfehlung: Eine Weiterentwicklung des Oldenburger Anrechnungsmodells. In: A. Hanft & K. Brinkmann (Hrsg.), Offene Hochschulen – Die Neuausrichtung der Hochschulen auf Lebenslanges Lernen, 248-257, Münster: Waxmann.

Europäisches Parlament (2007). Legislative Entschließung des Europäischen Parlaments vom 24. Oktober 2007 zu dem Vorschlag für eine Empfehlung des Europäischen Parlaments und des Rates zur Einrichtung eines Europäischen Qualifikationsrahmens für lebenslanges Lernen. Abrufadresse: http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P6-TA-2007- 0463+0+DOC+XML+V0//DE#BKMD-21).

Gierke, W., Hanft, A. & Müskens, W. (2008). Durchlässigkeit zwischen beruflicher Bildung und Hochschulbildung - Eine Herausforderung für das deutsche Hochschulsystem. In: A. Grotlüschen, P. Beier (Hrsg.), Zukunft Lebenslangen Lernens - Strategisches Bildungsmonitoring am Beispiel Bremens, 99-112. Bielefeld: Bertelsmann.

Gierke, W. & Müskens, W. (2009). Der Module Level Indicator - ein Instrument für qualitätsgesicherte Verfahren der Anrechnung. In: Regina Buhr, Walburga Freitag, Ernst A. Hartmann, Claudia Loroff, Karl-Heinz Minks, Kerstin Mucke, Ida Stamm-Riemer (Hrsg.), Durchlässigkeit gestalten - Wege zwischen beruflicher und hochschulischer Bildung, 134-136. Münster: Waxmann.

Hanft, A. & Müskens, W. (2010). Durchlässigkeit zwischen beruflicher Bildung und Hochschule. Berufsbildung - Zeitschrift für Praxis und Theorie in Betrieb und Schule, 125, S. 8-9.

Hanft, A. & Müskens, W. (2012). Anrechnung außerhalb der Hochschule erworbener Kompetenzen – Das Oldenburger Modell. In: Hochschulrektorenkonferenz (Hrsg.), Chancen erkennen – Vielfalt gestalten: Konzepte und gute Praxis für Diversität und Durchlässigkeit, 21-24. Bonn: HRK.

Hanft, A. & Müskens, W. (2012). Qualitätsgesicherte Anrechnung durch bereichsübergreifende Qualifikationsrahmen? In: K. Büchter, P. Dehnbostel & G. Hanf (Hrsg.), Der Deutsche Qualifikationsrahmen (DQR) – Ein Konzept zur Erhöhung von Durchlässigkeit und Chancengleichheit im Bildungssystem? Bielefeld: W. Bertelsmann Verlag.

Hanft, A. & Müskens, W. (2013). Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge: Ein Überblick. In: A. Hanft & K. Brinkmann (Hrsg.), Offene Hochschulen – Die Neuausrichtung der Hochschulen auf Lebenslanges Lernen, 223-234, Münster: Waxmann.

Hanft, A., Knust, M., Müskens, W. & Gierke, W. (2008). Vom Nutzen der Anrechnung. Eine Betrachtung aus organisatorischer und ökonomischer Perspektive. Betriebliche Forschung und Praxis, 4, 297-312.

Hartmann, E. A. & Stamm-Riemer, I. (2006). Die BMBF-Initiative „Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge" - ein Beitrag zur Durchlässigkeit des deutschen Bildungssystems und zum Lebenslangen Lernen. Hochschule & Weiterbildung, 1, 52-60.

HRK und DIHK (2008). Für mehr Durchlässigkeit zwischen beruflicher Bildung und Hochschulbildung! Gemeinsame Erklärung des Deutschen Industrie- und Handelskammertages (DIHK) und der Hochschulrektorenkonferenz (HRK). Abrufadresse: http://www. hrk.de/de/download/dateien/081014_HRK_DIHK_Endfassung.pdf

KMK (2002). Anrechnung von außerhalb des Hochschulwesens erworbenen Kenntnissen und Fähigkeiten auf ein Hochschulstudium - Beschluss der Kultusministerkonferenz vom 28.06.2002.

Müskens, W. & Eilers-Schoof, A. (2011). Auf dem Weg zur Offenen Hochschule – Weiterentwicklung der Verfahren zur pauschalen und individuellen Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge. BWP – Berufsbildung in Wissenschaft und Praxis (5).

Müskens, W. & Eilers-Schoof, A. (2013). Neue Wege zwischen beruflicher und hochschulischer Bildung: Das Oldenburger Modell der Anrechnung in der Praxis. In: A. Hanft & K. Brinkmann (Hrsg.), Offene Hochschulen – Die Neuausrichtung der Hochschulen auf Lebenslanges Lernen, 235-247, Münster: Waxmann.

Müskens, W. & Gierke, W.B. (2009). Gleichwertigkeit von beruflicher und hochschulischer Bildung. Report – Zeitschrift für Weiterbildungsforschung, 32(3), 46-54.

Müskens, W. & Tutschner, R. (2011). Äquivalenzvergleiche zur Überprüfung der Anrechenbarkeit beruflicher Lernergebnisse auf Hochschulstudiengänge – ein Beispiel aus dem Bereich Konstruktion/Maschinenbau. bwp@ Spezial 5 - Hochschultage Berufliche Bildung 2011, 1-16. Abrufadresse: http://www.bwpat.de/ht2011/ws28/mueskens_tutschner_ws28-ht2011.pdf

Müskens, W. (2006). Pauschale und individuelle Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge - das Oldenburger Modell. Hochschule & Weiterbildung, 1, 23-30.

Müskens, W. (2007). Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge - erste Ergebnisse des Modellprojektes „Qualifikationsverbund Nord-West". In: H. Hortsch (Hrsg.), Innovationen für die Durchlässigkeit von Studiengängen, Dresdener Beiträge zur Berufspädagogik, 24, 37-49.

Müskens, W. (2009). Authentische Erfassung informeller Lernerfolge im Oldenburger Modell der Anrechnung beruflicher Kompe tenzen auf Hochschulstudiengänge. In: U. Walkenhorst, A. Nauerth, I. Bergmann-Tyacke, K. Marzinzik (Hrsg.), Kompetenzentwicklung im Gesundheits- und Sozialbereich, 225-235. Bielefeld: UVW.

Müskens, W. (2010). Anrechnung beruflicher Kompetenzen im berufsbegleitenden Bachelor-Studiengang ‚Business Administration' an der Universität Oldenburg. In: Bologna-Zentrum (Hrsg.), Studienreform nach Leuven – Ergebnisse und Perspektiven, Beiträge zur Hochschulpolitik, 3, 69-77, Bonn: HRK.

Müskens, W. (2012). Die Bedeutung von Netzwerken im Rahmen von Anrechnung und Durchlässigkeit. In: S. Globisch, E. A. Hart- mann, C. Loroff, I. Stamm-Riemer (Hrsg.), Bildung für Innovationen – Innovationen in der Bildung: Die Rolle durchlässiger Bildungsangebote in Clusterstrukturen, 49-59. Münster: Waxmann.

Müskens, W., Gierke, W. & Hanft, A. (2008). Nicht gleichartig und doch gleichwertig? Kompensation und Niveaubestimmung im Oldenburger Modell der Anrechnung. In: I. Stamm-Riemer, C. Loroff, K.-H. Minks, W. Freitag, (Hrsg.), Die Entwicklung von Anrechnungsmodellen – Zu Äquivalenzpotenzialen von beruflicher hochschulischer Bildung, 91-102. Hannover: HIS.

Müskens, W., Müskens, I. & Hanft A. (2008). Application and Impact of Learning Outcomes on Institutional Cooperation, Accreditation and Assessment - A German Case. In: E. Cendon, K. Prager, E. Schabauer, E. Winkler (Hrsg.), Implementing Competence Orientation and Learning Outcomes in Higher Education – Processes and Practises in Five Countries, 82-109. Krems: Danube University.

Müskens, W., Tutschner, R. & Wittig, W. (2009). Accreditation of Prior Learning in the Transition from Continuing Vocational Training to Higher Education in Germany. In: R. Tutschner, W. Wittig, J. Rami (Hrsg.), Accreditation of Vocational Learning Outcomes – Perspectives for a European Transfer, 75-98, Bremen: ITB.

Müskens, W., Tutschner, R. & Wittig, W. (2009). Improving permeability through equivalence Checks: An example from mechanical engineering in Germany. In: R. Tutschner, W. Wittig, J. Rami, (Hrsg.), Accreditation of Vocational Learning Outcomes – European Ap- proaches to Enhance Permeability between Vocational and Higher Education, Impuls, 38, 10-33, Bonn: BIBB.

Wissenschaftliche Begleitung der BMBF-Initiative „Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge (ANKOM)" (2008). Anrechnungsleitlinie – Leitlinie für die Qualitätssicherung und Verfahren zur Anrechnung beruflicher und außerhochschulisch erworbener Kompetenzen auf Hochschulstudiengänge. Hannover/Berlin: HIS und VDI/VDE.

WMK und KMK (2009). Bachelor- und Masterabschlüsse in der beruflichen Weiterbildung. Beschluss der Wirtschaftsministerkonferenz vom 15./16.12.2008 und der Kultusministerkonferenz vom 05.02.09. Abrufadresse: http://www.kmk.org/fileadmin/veroeffent- lichungen_beschluesse/2009/2009_02_05-Bachelor-Master-berufliche_Weiterbildung.pdf

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