

SCIENTIFIC MONITORING „APPLIED METHODS OF IMPACT ASSESSMENT“

*Final report TCA Showing and Identifying Impact of Erasmus+ on EU and
National Level, Part I*

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On behalf of OeAD GmbH



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Abstract de

Das Österreichische Institut für Berufsbildungsforschung hat im Auftrag der OeAD-GmbH als österreichischer Nationalagentur für das Programm Erasmus+ die erste Projektphase der Entwicklung eines Verfahrens zur Messung der Wirkungen des Programmes (am Beispiel der Leitaktion KA1 im Bereich Berufsbildung) wissenschaftlich begleitet (TCA Showing and Identifying Impact of Erasmus+ on EU and National Level). Der vorliegende Bericht dokumentiert die durchgeführten Arbeiten, die im Dezember 2017 abgeschlossen wurden. Die Detaillergebnisse der Modellrechnungen für die Gesamtheit der teilnehmenden Staaten sowie auf nationalstaatlicher Ebene werden in einem gesonderten Bericht dargestellt.

Abstract en

The Austrian Institute for Vocational Education and Research, on behalf of the OeAD as the Austrian National Agency for the Erasmus + programme, has scientifically supported the first project phase of the development of a method for measuring the effects of the programme (using the example of the key action KA1 in the field of vocational training) (TCA Showing and Identifying Impact of Erasmus + on EU and National Level). In January 2017 öibf was commissioned to continue this work. This report documents the work, which was completed in December 2017. The detailed results of the model calculations for the entirety of the participating states and at national level are presented in a separate report.

Key words

Europa

Qualität und Professionalisierung, Evaluationsforschung

Wirkungsanalyse, Erasmus+ Berufsbildung

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I. Background

At a meeting of the Erasmus + national agencies from Finland, Hungary, Iceland, the Netherlands, Slovenia, Sweden, the UK and Austria on Impact Assessment in Ljubljana in January 2016, it was agreed to create a "Statistical Grid" for Erasmus + on key objectives and indicators (ET 2020 objectives, Erasmus + indicators, etc.). Data from the Erasmus + IT tools should be used as primary data.

In 2016, preliminary work was carried out on possible topics, methodological approaches and data bases for an impact model.

In 2017 the TCA Project "Showing and Identifying Impact of Erasmus+ on EU and National Level" was initiated by the Austrian National Agency for Erasmus+ Education, involving National Agencies from Estonia, Finland, Hungary, Iceland, the Netherlands, Norway, Slovenia and Sweden

Objective of the TCA

- Identifying and showing impact of Erasmus+ on EU and national levels based on existing data, factual evidence and additional evidence-based research which, to date, has not been done

Target Groups

- Stakeholders, decision-makers, (potential) beneficiaries, change agents and National Agencies

Outcomes

- Create a tool for targeted programme governance for each NA
- Strengthen learning, accountability, branding, communication
- Promote improvements in Erasmus+
- Create a wider knowledge base for National Agencies
- Visualize whether the programme meets its goals on a frequent basis

As part of the TCA (project period January 2017 to June 2018), the work for an impact model was continued and the first results in terms of subject areas, indicator formation and methodology were coordinated with the participating National Agencies during the steering group meetings.

On the basis of the results of the discussion, it was decided to install a working group of internal and external experts from the Norwegian, Finnish and Austrian National Agency under the direction of the external expert of the Austrian National Agency and to transfer the further development work to this working group within the next phase of the TCA (project period July 2017 to June 2018). In particular, the expert group should devote itself to the final definition of the topics, the questions to be selected from the participant's survey, the statistical operationalization and the analysis of the data of the other participating national agencies. The objective was the presentation of comparative model results for all participating National Agencies within the next meeting of the steering group in November 2017.

In particular, the working plan of the expert group comprised the following steps:

- / Final definition of the topics to be dealt with in the analysis and the questions to be selected in the participants' questionnaire
- / Definitive characteristics of the indicators including any clusters or weightings
- / Collection, plausibility check, substantive examination, analysis of the data for the model provided by the national agencies
- / Preparation of a uniform database for basic and further analyses
- / Preparation of model calculations and documentation of the model and its results
- / Presentation and discussion of the model design and the model calculations as part of a meeting of the steering committee of the national agencies in November 2017 including the preparatory work

During the meeting of the Impact Assessment Steering Group in Vienna (November 27th and 28th, 2017), the methodological approach and the model results were presented to the representatives of the participating National Agencies and agreed upon by them. At the end of 2017, the first tested and valid results were available.

II. The Model: concept, definitions, methodology

II. 1 Concept for an impact assessment model MIA

In January 2017, the data of the Austrian National Agency on the Participation Survey 2014 were analysed in detail and their usability tested for the formation of indicators for an impact model. Subsequently, a model MIA (details in II.1.1) was developed to measure the impact of the Erasmus + programme in the field of vocational training in Key Action 1 "Mobility".

The aim is to develop an impact model for ERASMUS +, illustrating the effects of the programme for learners, teachers and trainers, educational institutions and society and economy of the European Union on the basis of quantitative and qualitative indicators. In an iterative process, this model is now being developed in the first step for KA1 (mobility) in the field of vocational training (VET).

General objectives of an impact modelling of Erasmus + are the production of a transparent target architecture and an instrument for an impact-oriented monitoring. A good model will support results-based management and further development of the programme.

The target architecture is reflected in the general goals and objectives designated for specific activities. The measures laid down in the relevant guidelines have been related to the objectives of the ERASMUS+ programme and main EU initiatives in regard to education and labour market during the development of the model. The indicators are tools to verify the achievement of these objectives.

In the first phase seven themes were identified to be essential for an impact assessment. These issues are:

- / Competence
- / Innovation
- / Inclusion
- / Employability
- / Professional development
- / System improvement
- / EU-citizenship

An impact assessment model for Erasmus+ programmes should include indicators to the following fields:

- / Empirical indicators on the development of numbers and shares of projects
- / Empirical indicators on the development and share of project promoters resp. organisations
- / Empirical indicators on the quality of project proposals and finalized projects
- / Empirical indicators on the development of numbers and shares of participants
- / Empirical indicators on the development and share of participating target groups
- / Qualitative Indicators on the impact of the programmes on certain issues.

Regarding the methodological approach to a model for measuring the effectiveness of the Erasmus + programme, it is appropriate to use a methodology that:

- / Is based on data readily available in all participating countries of the programme

- / Provides reliable results
- / Can be transferred to all educational areas and action lines
- / Is easy to handle and
- / Is easily expandable.

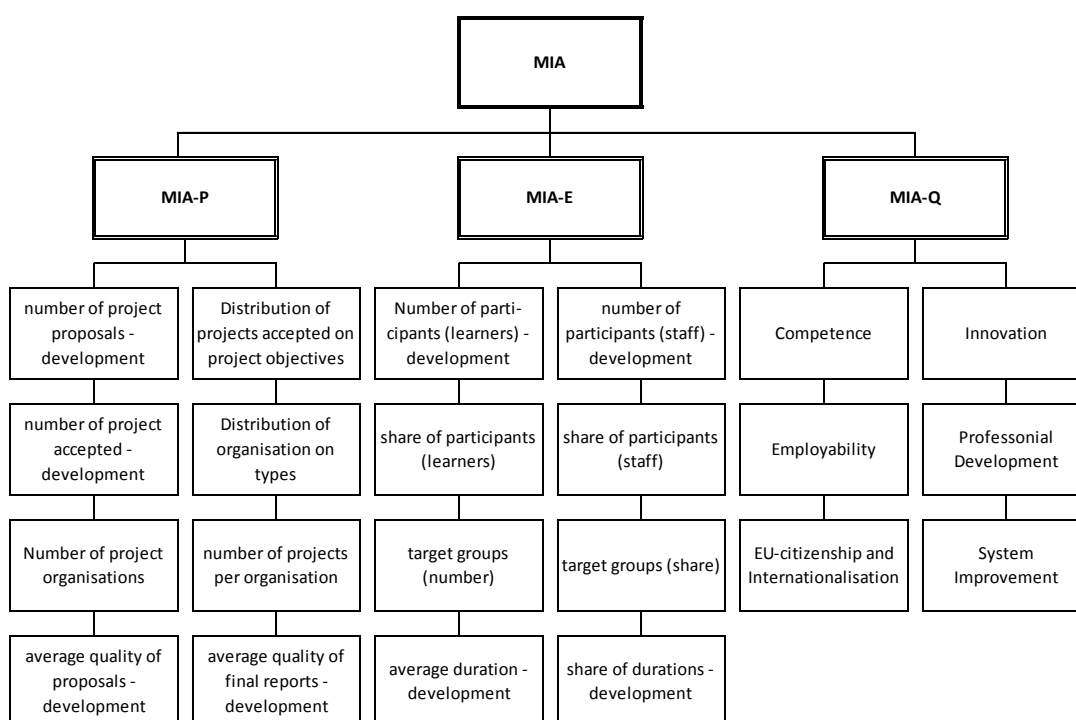
In addition, the model should also be able to deliver results for individual subgroups within the target groups of the programme.

II.1.1 General model

As shown in illustration 1, the proposed model scheme for an impact assessment model for KA1 Mobility in VET consists of three sub-models:

- / MIA-P: This model represents the effects of the programmes at the level of the projects or project organizations and is based on the data which must be reported to the national agencies by the projects
- / MIA-E: This model is based on the reporting data regarding participants and measures the effect by means of changes in the number of participants or the distribution of the participants' numbers according to socioeconomic criteria and target groups, as well as the change and distribution of the participants
- / MIA-Q: This sub-model represents the effects of the programme on key objectives and builds on the responses of the participants.

Illustration 1: General model scheme (final version) for KA1 Mobility in VET



Source: öibf

In order to develop a model that can be applied to all Erasmus + areas and key actions, and to use comparable indicators for all participating countries, it is necessary to develop indicators that are independent of the absolute number of

participations (by project promoters, organizations and persons) in their statements on the effects. This is ensured for indicators that relate to the change or distribution of absolute values or to the categorization of qualitative statements.

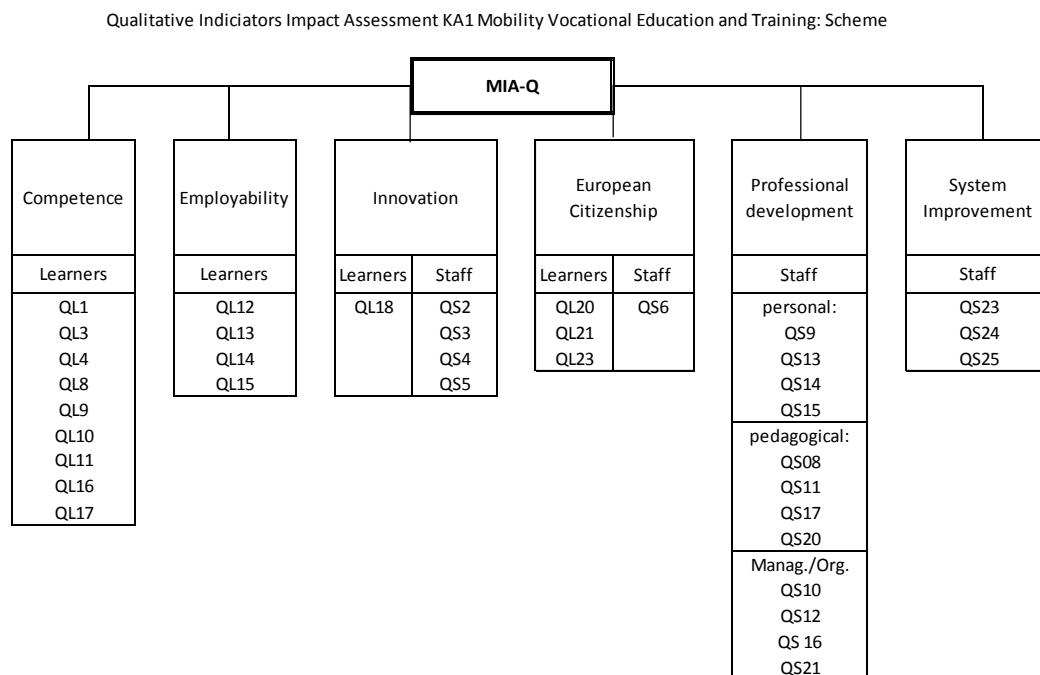
II. 2 The sub-model MIA-Q

The MIA-Q sub-model is based on the participant surveys for learners and staff, and uses a large part of the questions cited in the questionnaire. Most questions have five fixed answer categories. The scales are:

- / "Strongly agree, rather agree, Neither agree nor disagree, Rather disagree, Strongly good disagree",
- / "Very good, Good, Fair, Poor, Very poor",
- / "Very Satisfied, Rather satisfied, Neither satisfied nor dissatisfied, Rather dissatisfied, Very dissatisfied".

The individual questions were then assigned to one of the seven thematic areas. During the work on the sub-models one of the issues (inclusion) was dropped (see chapter II.3).

Illustration 2: General scheme of the submodel MIA-Q



Source: öibf

The sub-model MIA-Q consists of six groups of indicators (according to the topics) and is based exclusively on the participant's surveys for learners and staff. The questions chosen are organized both in regard to the issues and the level of impact they aim at (learners, staff or organisations).

The sub-model was tested during the autumn 2017 using the data of all participating NAs for 2014 and 2015. The data for 2016 was left out for the moment, because at the time of the testing the complete data for this year was not available yet.

According to the methodological work of the expert group and the statistical testing, the sub-model MIA-Q turned out to be a stable and usable model for testing the impact of KA1 projects on the participants.

II. 3 Definitions of topics and selection of indicators

The following chapter presents the results of the discussion process in the expert group presented at the Steering Group meeting.

According to the results of the discussion at the meeting of the steering group in Vienna in April 2017, the expert group discussed the seven themes selected in the preparation period. Based on the discussion on topics the expert group went through the first proposal of survey questions which could be used to build indicators. All questions were discussed in regard to relevance and usability for the model and the assignment to the topics selected. In a first step the expert group reduced the sample of questions selected in the first proposal according to their substantive validity. As a next step, a thorough analysis and evaluation of the relevance and validity of the survey questions to form valuable indicators was done by the team of the external Norwegian expert (Results of the analysis see Chapter IV). As a result of this analyses questions which were statistically not valid were omitted. For the topic “professional development” the questions selected were divided into sub-indicators for personal, pedagogical and organisational development in order to get a set of indicators which are statistically more valid. In the next part the preliminary definitions of the themes are presented. The work of the expert group has been based on the Erasmus+ Programme Guide. This work should be revised and further developed at a later stage/after testing and analyses of complete dataset.

II.3.1 (Active) European Citizenship and Internationalisation

In the Erasmus + guide¹ the following statements related to EU citizenship were found:

- / To raise participants' awareness and understanding of other cultures and countries, offering them the opportunity to build networks of international contacts, to actively participate in society and develop a sense of European citizenship and identity
- / Broaden and deepen political and social participation of young people at local, regional, national, European or global level
- / Promote diversity, intercultural and inter-religious dialogue, common values of freedom, tolerance and respect of human rights

¹ Erasmus+ Programm Guide Version 2(2017): 20/01/2017.

https://ec.europa.eu/programmes/erasmus-plus/sites/erasmusplus2/files/2017-erasmus-plus-programme-guide-v2_en.pdf

- / Enable young people to connect with, express their opinions to and influence elected policy-makers, public administrations, interest groups, civil society organisations, or individual citizens within any of the political or social processes affecting their lives.
- / Dialogue between people and cultures
- / Increased interest in understanding and participating in the European Union

As these points are very broad and general the indicator model should investigate if the programme has a positive effect on the key elements: awareness, understanding, competence and participation in EU matters.

For the topic “Internationalisation” the Erasmus+ guide formulates the following items:

- / Mobility of learners and staff: opportunities for students, trainees, young people, as well as for teachers, trainers, staff of education institutions and civil society organisations to undertake a learning and/or professional experience in another country
- / Enhanced transnational cooperation of education and training providers and other stakeholders
- / Improve the teaching and learning of languages and promote the EU's broad linguistic diversity and intercultural awareness
- / Enhancing the quality and quantity of transnational VET mobility
- / Management competences, staff competences, new teaching methods or tools, European dimension, language competences, curriculum, organisation of teaching, training and learning, reinforcing links with partner institutions
- / Increased capacity to operate at EU/international level: improved management skills and internationalisation strategies; reinforced cooperation with partners from other countries; increased allocation of funding (other than EU funds) to organise EU/international projects; increased quality in the preparation, implementation, monitoring and follow up of EU/international projects.
- / International credit mobility of individuals (under Key Action 1) promoting the mobility of learners and staff from and to Partner Countries.

Key elements: Increased mobility opportunities, wider networks, better linguistic and intercultural competence, better management and administrative performance in mobility projects, improved use of ECTS, ECVET and other mechanisms of recognition and comparability of competences.

As the Erasmus+ mobility programmes are open not only for learners and staff of EU countries but also for people of EEA countries, it was decided to broaden the concept of the topic towards a general European perspective and thus focus on the following questions:

- / Does the mobility enhance the awareness of social and political concepts like democracy, justice, equality, citizenship, civil rights?
- / Does the mobility support the interest in European topics?
- / Does the mobility promote an affiliation to the Europe as a cultural, political and economic region?
- / Does the mobility enhance the internationalisation of the institutions involved in the programme?

The expert group decided to take questions from the learners' survey as well as from the staff survey because it is also important to include the impact on the sending institutions. Although the questions are derived from two separate surveys they can be combined without weakening the statistical value.

The following questions of the learners' survey were selected and tested:

Indicator	Source	Question	Issue selected
QL20	survey (learners)	After having taken part in this mobility activity...: I am more aware of social and political concepts like democracy, justice, equality, citizenship, civil rights	European citizenship
QL21	survey (learners)	After having taken part in this mobility activity...: I am more interested in European topics	European citizenship
QL23	survey (learners)	After having taken part in this mobility activity...: I feel more European	European citizenship
QS6	Survey (Staff)	My participation in Erasmus+ had the following impact on my sending institution: Has led to internationalisation of my sending institution	European citizenship

II.3.2 System Improvement

The Erasmus + guide does not provide information on the kinds of system improvements that should be the effect or result of EU mobility actions. Therefore it is necessary to explore any kind of system impact mobility actions might have.

The E + mobility system

One aspect may be to consider system impact regarding the system of mobility. This includes among other things: information, communication, coordination, funding arrangements etc.

The school internal system

At this level organisational issues in the participating schools focused on mobility may be included but also national legal and organisational system elements affecting the wider structure and administration of the participating school.

The educational system

Here the issue is whether participation in EU mobility actions increases the quality of structure in the educational systems in the local, regional or national context of the participating schools.

That is, why this topic is rather difficult to describe and evaluate via responses of the participant's survey. Relevant questions to be answered:

- / Does the participation in a K1 mobility action provide learners and staff with:
 - / tools or competences to enhance the mobility system
 - / tools or competences to enhance the internal school system
 - / tools or competences to affect the local regional or national education system
- / Does the mobility action provide schools with ideas, tools, procedures to improve its system

/ Does the mobility provide opportunities to reflect upon and enhance educational system aspects?

There is a lot of information available in the dataset. However, it concerns mostly the system of mobility itself. The focus is on the facilitation and support structures within the mobility action. Only in a few items answered by staff some attention is paid to how the mobility action affects the school organisation.

As system improvement can only be assessed by teachers and trainers it was decided to focus on questions addressing cooperation of the staff (only data from staff survey) for this issue.

The following questions of the teachers' survey were selected and tested:

Indicator	Source	Question	Issue selected
QS23	Survey (Staff)	My participation in Erasmus+ had the following impact on my sending institution: Has led to new/increased cooperation with the partner institution/organisation(s)	System improvement
QS24	Survey (Staff)	Personal and professional development: thanks to this mobility activity.: I have built cooperation with players in the labour market	System improvement
QS25	Survey (Staff)	Personal and professional development: thanks to this mobility activity....: I have reinforced the cooperation with the partner institution/organisation	System improvement

II.3.3 Employability

Employability is one of the key words of European strategies as well as in regard to growth and employment as in regard to education. The European employment strategy addresses employability in three of the four key domains (boosting demand of labour, enhanced labour supply, better functioning on the labour markets). To reach its employment target for 2020 (75% of the working-age population (20-64 years) in work) the EU launched the Agenda for new skills and jobs in 2010 as a part of the EU's overall strategy – Europe 2020 – promoting smart, sustainable and inclusive growth in the next 10 years and beyond. One of the concrete actions within the Agenda focusses on equipping people with the right skills for the jobs of today and tomorrow.

The New Skills Agenda for Europe “aims to make sure that people develop the skills necessary for the jobs of today and tomorrow. This task is essential to boost employability, competitiveness and growth across the EU”².

The agenda calls on EU countries and stakeholders to improve the quality of skills and their relevance for the labour market. It looks to reduce the number of Europeans lacking adequate reading, writing, numeracy and digital skills. At the same time, it seeks to help highly-qualified young people find work that suits their potential and aspirations, make it easier for employers to recruit employees with the right profiles and to equip people with the skills and mindset to start their own businesses.

² http://ec.europa.eu/education/news/2016/0610-education-skills-factsheet_en.htm, last called on August 31st, 2016

Also in the Council Conclusions on investing in education and training³ the Council of the European Union states that the primary goal is “to support the further development of education and training systems in the Member States aimed at ensuring the personal, social and professional fulfilment of all citizens as well as sustainable economic prosperity and employability (...)”.

Erasmus+ is the main funding source for mobility projects aiming at (amongst other objectives) improving skills of the participants and thus enhancing the labour mobility and employability of the persons involved (especially in the field of VET).

According to the aims and objectives of ERASMUS+, the New Skills Agenda for Europa and the overall key strategies of the EU 2020 four bundles of core questions can be derived:

- / From the point of view of learners: Does the participation in KA1 mobility programmes enhance the employability of the individuals? How resp. in which fields employability is increased? To which extent is employability increased?
- / From the point of view of teachers/staff: Does the active work in KA1 mobility programmes enhance the employability of the staff? How resp. in which fields employability is increased? To which extent is employability increased?
- / From the point of view of project organisations: What is the effect of the project in regard to the employability of individuals and staff? How resp. in which field employability is increased? To which extent is employability increased? Has the project reached its own goals in regard to employability resp. to which extent?
- / From the point of view of NA/Erasmus+: Is there a measurable impact of the mobility programmes to the employability of the target groups? How does the programme affect the employment (and unemployment) rates of the country where the projects take place? How does the programme effect the employment (and unemployment) rates of target countries (countries of origin of incoming learners)?

Most of these questions can only be dealt with in a long-term perspective and with the help of additional data from other sources. Therefore the expert group agreed on the following questions which could help to define indicators for this topic:

- / What is the participant's view on their employability (after the participating in the mobility programme)?
- / Is there an increase of self-esteem which may influence the employability of participants?

It was decided to focus on the learners' survey for this issue and to deal with questions relevant for employability for teachers and staff in conjunction with the subject of professional development. From the researchers perspective the self-assessment of learners could provide some valuable indicators on this topic.

The following questions of the participants' survey were selected and tested:

³ Council Conclusions on investing in education and training – a response to ‘Rethinking Education: Investing in skills for better socio-economic outcomes’ and the “2013 Growth Survey.
http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/educ/119282.pdf
last called on August 31st, 2016.

Indicator	Source	Question	Issue selected
QL12	survey (learners)	Thanks to this mobility experience: I have a clearer idea about my professional career aspirations and goals	Employability
QL13	survey (learners)	Thanks to this mobility experience: I believe that my chances to get a new or better job have increased	Employability
QL14	survey (learners)	Thanks to this mobility experience: I have better opportunities for internships or jobs in my home country	Employability
QL15	survey (learners)	Thanks to this mobility experience: I am better capable of taking over work tasks with high responsibility after my stay abroad	Employability

II.3.4 Inclusion

A clear definition of the groups at which the inclusion goals focus is given in the Erasmus+ guide. Included are people with:

- / disability (i.e. participants with special needs): people with mental (intellectual, cognitive, learning), physical, sensory or other disabilities;
- / educational difficulties: young people with learning difficulties; early school-leavers; low qualified adults; young people with poor school performance;
- / economic obstacles: people with a low standard of living, low income, dependence on social welfare system or homeless; young people in long-term unemployment or poverty; people in debt or with financial problems; cultural differences: immigrants or refugees or descendants from immigrant or refugee families; people belonging to a national or ethnic minority; people with linguistic adaptation and cultural inclusion difficulties;
- / health problems: people with chronic health problems, severe illnesses or psychiatric conditions;
- / social obstacles: people facing discrimination because of gender, age, ethnicity, religion, sexual orientation, disability, etc.; people with limited social skills or anti-social or risky behaviours; people in a precarious situation; (ex-)offenders, (ex-)drug or alcohol abusers; young and/or single parents; orphans;
- / geographical obstacles: people from remote or rural areas; people living in small islands or in peripheral regions; people from urban problem zones; people from less serviced areas (limited public transport, poor facilities).

Relevant questions to be answered:

- / Do the learners feel the mobility activity is organized in such a way that people may participate regardless of the problems mentioned above;
- / Do staff members promote active dialogue on issues of human rights and critical thinking;
- / Does the mobility activity add to the opportunities to actively engage in employment for those who are facing problems or obstacles as the ones mentioned above.
- / Does the mobility action add to the ability of staff to promote inclusion
- / Does the mobility action add to the schools ability to be inclusive
- / Is there an inclusion promoting effect of mobility actions within the E+ programme?

There are, however, major differences in the Member States regarding social security systems and the approach to the implementation of inclusion in the labour market and education system. This also leads to different approaches in implementing inclusion in the Erasmus+ programme activities. In addition, there are hardly any questions in the questionnaires with regard to inclusion that are suitable for indicator formation. The expert group therefore decided to exclude this topic from the MIA-Q model. The extent to which inclusion can be taken into account in other sub-models must be clarified at a later stage.

II.3.5 Innovation (in regard to education in general and to the sending institutions)

Innovation is a key word in EU strategies. Mostly, it is related to R&D in the context of the competitiveness of the economy. In the European 2020 strategy the EU addresses education and training as important for equipping citizens with the skills and competences which the European economy and European society need in order to remain competitive and innovative, but also by helping to promote social cohesion and inclusion. Therefore

“... the primary goal (...) is to support the further development of education and training systems in the Member States aimed at ensuring the personal, social and professional fulfilment of all citizens, as well as sustainable economic prosperity and employability, whilst promoting democratic values, social cohesion, creativity and innovation, active citizenship, and intercultural dialogue”⁴.

In regard to innovations the relevant key objectives of Erasmus+ are

- / to foster quality improvements, innovation excellence and internationalisation at the level of education and training institutions, in particular through enhanced transnational cooperation between education and training providers and other stakeholders;
- / to promote the emergence and raise awareness of a European lifelong learning area designed to complement policy reforms at national level and to support the modernisation of education and training systems, in particular through enhanced policy cooperation, better use of Union transparency and recognition tools and the dissemination of good practices;
- / to enhance the international dimension of education and training, in particular through cooperation between Union and partner-country institutions in the field of VET and in higher education, by increasing the attractiveness of European higher education institutions and supporting the Union's external action, including its development objectives, through the promotion of mobility and cooperation between the Union and partner-country higher education institutions and targeted capacity-building in partner countries;
- / to improve the teaching and learning of languages and to promote the Union's broad linguistic diversity and intercultural awareness.

Considering the objectives of European strategies and the Erasmus+ key objectives the following questions are relevant for analysing a possible impact of Erasmus+ programmes:

⁴ Council Conclusions on investing in education and training – a response to „Rethinking Education: Investing in skills for better socio-economic outcomes“ and the „2013 Annual Growth Survey (2013/c 64/06), Official Journal of the European Union, 5.3.2013

- / Does the Erasmus+ programme contribute to foster innovation in the fields of education and training? To which extent?
- / Can innovative approaches for improving national and transnational training systems be identified in Erasmus + KA1 projects?
- / Are there any new teaching and learning methods being used in the context of programmes KA1 and if so, how are they judged by the participants and the support staff?
- / Is there an exchange of innovative approaches in the context of KA1 projects between educational institutions in the country of origin and the destination country?

For this topic the expert group decided to focus on new teaching/training methods, approaches and subjects at the sending institutions (staff) and only to include one question of the learners' survey.

The following questions of learners and staff were selected and tested:

Indicator	Source	Question	Issue selected
QL18	survey (lea	After having taken part in this mobility activity...: I am more able to reach decisions	Innovation
QS2	Survey (Staff)	My participation in Erasmus+ had the following impact on my sending institution: Has led to the introduction of new teaching/training subject(s)	Innovation
QS3	Survey (Staff)	My participation in Erasmus+ had the following impact on my sending institution: Has led to the use of new teaching/training methods/approaches /good practices at my sending institution	Innovation
QS4	Survey (Staff)	My participation in Erasmus+ had the following impact on my sending institution: Will lead to the introduction of new teaching/training subject(s)	Innovation
QS5	Survey (Staff)	My participation in Erasmus+ had the following impact on my sending institution: Will lead to the use of new teaching/training methods/approaches / good practices at my sending institution	Innovation

II.3.6 Competence

The Erasmus+ programme formulates several key objectives in regard to competence, one if it being:

- / To improve the level of key competences and skills, with particular regard to their relevance for the labour market and their contribution to a cohesive society, in particular through increased opportunities for learning mobility strengthened cooperation between the world of education and training and the world of work.

The New Skills Agenda for Europe points out that, according to studies, 70 million Europeans lack adequate reading and writing skills and even more have poor numeracy and digital skills. Increasing skills levels and promoting transversal skills therefore are essential to improve people's chances in life.

To help tackle skills challenges, the Commission has decided to launch ten actions which aim at raising skill levels and making skills more visible, including their recognition at local, national and EU levels from schools and universities to the labour market. These actions are:

- / A skills guarantee to help low-skilled adults acquire a minimum level of literacy, numeracy and digital skills and progress towards an upper secondary qualification
- / A review of the European Qualifications Framework for a better understanding of qualifications and to make better use of all available skills in the European labour market
- / The “Digital Skills and Job Coalition”
- / A “Skills Profile Tool for Third Country Nationals” to support early identification and profiling of skills and qualifications for asylum seekers, refugees and other migrants
- / A revision of the Europass Framework
- / Making Vocational Education and Training a first choice
- / A review of the Recommendation on Key Competences
- / An initiative on graduate tracking to improve information on how graduates progress in the labour market.
- / A proposal to analyse effective ways to address brain drain.

The Council conclusions on the role of education and training in the implementation of the “Europe 2020” strategy point out that

“Education and training have a fundamental role to play in achieving the “Europe 2020” objectives of smart, sustainable and inclusive growth, notably by equipping citizens with the skills and competences which the European economy and European society need in order to remain competitive and innovative, but also by helping to promote social cohesion and inclusion”.⁵

According to the aims and objectives of ERASMUS+, the New Skills Agenda for Europa and the overall key strategies of the EU 2020 the following core questions can be derived:

- / Which competences are increased by the participation in KA1 projects? To what extent?
- / Does the participation in KA1 projects enhance key competences and to what extent?
- / Is there a relevant increase in language skills due to KA1 projects?
- / Which social and personal skills and competences are increased by KA1 programmes?
- / Are there relevant increases in professional skills and competences brought upon by KA1 projects? In which sectors and professional fields?

For this topic the expert group decided to focus on learners. Competence of staff is to be dealt with under the issue of “professional development”.

For learners the following questions of the participants’ survey were selected and tested:

⁵ Council conclusions on the role of education and training in the implementation of the ‘Europe 2020’ strategy (2001/C 70/01), Official Journal of the European Union 4.3.2011

Indicator	Source	Question	Issue selected
QL1	survey (learners)	Through my participation in this activity I learned better how to.: think logically and draw conclusions (analytical skills)	Competence
QL3	survey (learners)	Through my participation in this activity I learned better how to.: cooperate in teams	Competence
QL4	survey (learners)	Through my participation in this activity I learned better how to.: plan and organise tasks and activities	Competence
QL8	survey (learners)	Through my participation in this activity I learned better how to.: find solutions in difficult or challenging contexts (problem-solving skills)	Competence
QL9	survey (learners)	Through my participation in this activity I learned better how to.: plan and carry out my learning independently	Competence
QL10	survey (learners)	After having taken part in this mobility activity...: I improved my technical/professional skills/competences	Competence
QL11	survey (learners)	After having taken part in this mobility activity...: I am more able to think and analyse information critically	Competence
QL16	survey (learners)	Thanks to this mobility experience.: I believe that my chances to get a new or better job have increased	Competence
QL17	survey (learners)	Thanks to this mobility experience: I have better opportunities for internships or jobs in my home country	Competence

II.3.7 Professional development

Main objectives of European strategies and Erasmus+ in regard to professional development are the following

- / More modern, dynamic, committed and professional environment inside the organisation: ready to integrate good practices and new methods into daily activities; open to synergies with organisations active in different social, educational and employment fields;
- / Planning strategically the professional development of their staff in relation to individual needs and organisational objectives
- / Support the professional development of those who work in education with a view to innovating and improving the quality of teaching, training and youth work across Europe
- / Actions that support continuing professional development of educators (such as teachers, tutors, mentors, etc.) especially on dealing with an increasing diversity of learners, early school leaving, learners with disadvantaged backgrounds (including refugees, asylum seekers and migrants), work-based learning, digital competences and innovative pedagogies.
- / In order to ensure and maximise the impact of these activities on professional development of all staff, schools should make sure that after the mobility the competences acquired by their staff are well disseminated across the school and integrated into the school teaching practice.

Relevant questions to be answered:

- / Does the participation in a K1 mobility action provide staff with:
- / Opportunities to enhance their personal skills?
- / Opportunities to develop and share innovative ways of teaching across Europe by improving their pedagogical competences?
- / Does participation in a K1 mobility action improve professional development by enhancing managerial and organisational skills of trainers/trainers/staff?

For this topic the expert group decided to focus on teachers/trainers/staff and deal with the questions presented in three different sub-topics.

As mentioned above, the questions selected for this topic were divided into three sub-topics: personal, pedagogical and organisational issues. The questions selected for these sub-topics are:

Personal issues:

Indicator	Source	Question	Issue selected
QS9	Survey (Staff)	By participating in this Erasmus+ activity I have developed the following competences: Cultural awareness and expression	PD/personal issues
QS13	Survey (Staff)	Personal and professional development: thanks to this mobility activity...: I have increased my social, linguistic and/or cultural competences	PD/personal issues
QS14	Survey (Staff)	By participating in this Erasmus+ activity I have developed the following competences: Emotional skills (e.g. having more self-confidence, etc.)	PD/personal issues
QS15	Survey (Staff)	By participating in this Erasmus+ activity I have developed the following competences: Interpersonal and social competences	PD/personal issues

Pedagogical issues:

Indicator	Source	Question	Issue selected
QS8	Survey (Staff)	By participating in this Erasmus+ activity I have developed the following competences: Analytical skills	PD/pedagogical issues
QS11	Survey (Staff)	Furthermore...: I have improved my knowledge of the subject taught/trained of my professional area	PD/pedagogical issues
QS17	Survey (Staff)	Personal and professional development: thanks to this mobility activity...: I have gained sector-specific or practical skills relevant for my current job and professional development	PD/pedagogical issues
QS20	Survey (Staff)	Personal and professional development: thanks to this mobility activity...: I have improved my competences in the use of Information and Communication Technology tools (e.g. computer, internet, virtual collaboration platforms, software, ICT devices, etc.)	PD/pedagogical issues

Management/Organisation:

Indicator	Source	Question	Issue selected
QS10	Survey (Staff)	By participating in this Erasmus+ activity I have developed the following competences: Sense of initiative and entrepreneurship	PD/Management, Organisation
QS12	Survey (Staff)	Personal and professional development: thanks to this mobility activity...: I have enhanced my organisational/management/leadership skills	PD/Management, Organisation
QS16	Survey (Staff)	By participating in this Erasmus+ activity I have developed the following competences: Practical skills (e.g. planning and organising, project management, etc.)	PD/Management, Organisation
QS21	Survey (Staff)	Personal and professional development: thanks to this mobility activity...: I have reinforced or extended my professional network or built up new contacts	PD/Management, Organisation

III. Methodology

III. 1 General methodological approach

In order to develop a model that can be applied to all Erasmus + areas and key actions, and to use comparable indicators for all participating countries, it is necessary to develop indicators that are independent of the absolute number of participations (by project promoters, organizations and persons) in their statements on the effects. This is ensured for indicators that relate to the change or distribution of absolute values or to the categorization of qualitative statements.

The concept of the impact assessment model MIA is based on a number of indicators in the sub-models which can easily combined to form an overall indicator. Therefore all indicators are built along following rules:

Each element that is measured by means of an indicator is subjected to categorization according to five linear stages grouped around the average value of 3. The categorizations are made at the level of the individual observations (participations), the indicator is formed as an average value over all individual expressions. This procedure ensures that all indicators can be formed in the same way and displayed in a simple manner as a number.

In the current version, all the indicators used are equivalent. The parent indicators for the topics presented are the average of their subordinate individual indicators. This prevents distortion of the overall indicator by differences in number of relevant survey questions. The overall indicator of the model is also formed by averaging over the individual subject areas. The current version of the model does not weight single indicators or topic groups.

III. 2 Date source of the model

The sub-model MIA-Q is based on the responses to the learners' and teachers' survey for 2014 and 2015 for Austria, Estonia, Finland, Hungary, Iceland, the Netherlands, Norway, Slovenia and Sweden. These have proven to be very well suited in terms of their validity and significance. The data for 2016 were not yet included because they were not yet fully available at the time of the analysis.⁶

III. 3 Model results: the example "competence"

The indicator for the topic "competence" is built as an average of the several sub-indicators (see page 19). For each sub-indicator the answers are evaluated according to the categories "strongly agree", "rather agree", "neither agree nor disagree", "rather disagree" and "strongly disagree", whereby the answers are weighted with the values 5 (strongly agree) to 1 (strongly disagree). The sum of the weighted values is divided by the number of responses and thus forms the sub-indicator. The competence indicator is the average of the sub-indicators. This procedure can be used for individual years and countries as well as for the overall evaluation of all responses from the participating countries for all available years.

⁶ An overview of major results of MIA-Q can be found in the Annex to this report. A detailed summary of the model results with additional explanations will be presented in a second report.

The overall MIA-Q indicator is also an average over the indicators of the individual subject areas.

The results of the overall analyses of these sub-indicators for the years 2014 and 2015 are the following:

Table 1 Model Results for all participating countries 2014 and 2015: Indicator QL 1 - Through my participation in this activity I learned better how to...: think logically and draw conclusions (analytical skills)

Category	Number	Share (Total)	Share (Resp.)	Number x Value	Value (Cat.)
Strongly agree	9.972	29,66%	29,69%	49.860	5
Rather agree	16.100	47,89%	47,94%	64.400	4
Neither agree nor disagree	6.100	18,14%	18,16%	18.300	3
Rather disagree	1.020	3,03%	3,04%	2.040	2
Strongly disagree	395	1,17%	1,18%	395	1
no answer	33	0,10%			Value (Ind.)
Total	33.620	100,00%	100,00%	134.995	4,02

Table 2 Model Results for all participating countries 2014 and 2015: Indicator QL 3 - Through my participation in this activity I learned better how to...: cooperate in teams

Category	Number	Share (Total)	Share (Resp.)	Number x Value	Value (Cat.)
Strongly agree	17.074	50,79%	50,84%	85.370	5
Rather agree	11.850	35,25%	35,28%	47.400	4
Neither agree nor disagree	3.592	10,68%	10,69%	10.776	3
Rather disagree	749	2,23%	2,23%	1.498	2
Strongly disagree	322	0,96%	0,96%	322	1
no answer	33	0,10%			Value (Ind.)
Total	33.620	100,00%	100,00%	145.366	4,32

Table 3 Model Results for all participating countries 2014 and 2015: Indicator QL 4 - Through my participation in this activity I learned better how to...: plan and organise tasks and activities

Category	Number	Share (Total)	Share (Resp.)	Number x Value	Value (Cat.)
Strongly agree	12.045	35,83%	35,86%	60.225	5
Rather agree	13.589	40,42%	40,46%	54.356	4
Neither agree nor disagree	5.935	17,65%	17,67%	17.805	3
Rather disagree	1.379	4,10%	4,11%	2.758	2
Strongly disagree	639	1,90%	1,90%	639	1
no answer	33	0,10%			Value
Total	33.620	100,00%	100,00%	135.783	4,04

Table 4 Model Results for all participating countries 2014 and 2015: Indicator QL 8
- Through my participation in this activity I learned better how to...: find solutions in
difficult or challenging contexts (problem-solving skills)

Category	Number	Share (Total)	Share (Resp.)	Number x Value	Value (Cat.)
Strongly agree	12.560	37,36%	37,40%	62.800	5
Rather agree	15.687	46,66%	46,71%	62.748	4
Neither agree nor disagree	4.431	13,18%	13,19%	13.293	3
Rather disagree	697	2,07%	2,08%	1.394	2
Strongly disagree	212	0,63%	0,63%	212	1
no answer	33	0,10%			Value (Ind.)
Total	33.620	100,00%	100,00%	140.447	4,18

Table 5 Model Results for all participating countries 2014 and 2015: Indicator QL 9
- Through my participation in this activity I learned better how to...: plan and carry
out my learning independently

Category	Number	Share (Total)	Share (Resp.)	Number x Value	Value (Cat.)
Strongly agree	12.272	36,50%	36,54%	61.360	5
Rather agree	15.496	46,09%	46,14%	61.984	4
Neither agree nor disagree	4.804	14,29%	14,30%	14.412	3
Rather disagree	753	2,24%	2,24%	1.506	2
Strongly disagree	262	0,78%	0,78%	262	1
no answer	33	0,10%			Value (Ind.)
Total	33.620	100,00%	100,00%	139.524	4,15

Table 6 Model Results for all participating countries 2014 and 2015: Indicator QL
10 - After having taken part in this mobility activity...: I improved my
technical/professional skills/competences

Category	Number	Share (Total)	Share (Resp.)	Number x Value	Value (Cat.)
Strongly agree	14.376	42,76%	42,80%	71.880	5
Rather agree	13.276	39,49%	39,53%	53.104	4
Neither agree nor disagree	4.518	13,44%	13,45%	13.554	3
Rather disagree	971	2,89%	2,89%	1.942	2
Strongly disagree	446	1,33%	1,33%	446	1
no answer	33	0,10%			Value (Ind.)
Total	33.620	100%	100%	140.926	4,19

Table 7 Model Results for all participating countries 2014 and 2015: Indicator QL 11 - After having taken part in this mobility activity...: I am more able to think and analyse information critically

Category	Number	Share (Total)	Share (Resp.)	Number x Value	Value (Cat.)
Strongly agree	10.735	31,93%	31,96%	53.675	5
Rather agree	15.526	46,18%	46,23%	62.104	4
Neither agree nor disagree	6.418	19,09%	19,11%	19.254	3
Rather disagree	727	2,16%	2,16%	1.454	2
Strongly disagree	181	0,54%	0,54%	181	1
no answer	33	0,10%			Value (Ind.)
Total	33.620	100%	100%	136.668	4,07

Table 8 Model Results for all participating countries 2014 and 2015: Indicator QL 16 - After having taken part in this mobility activity...: I am more able to adapt to and act in new situations

Category	Number	Share (Total)	Share (Resp.)	Number x Value	Value (Cat.)
Strongly agree	16.024	47,66%	47,71%	80.120	5
Rather agree	14.145	42,07%	42,11%	56.580	4
Neither agree nor disagree	2.999	8,92%	8,93%	8.997	3
Rather disagree	328	0,98%	0,98%	656	2
Strongly disagree	91	0,27%	0,27%	91	1
no answer	33	0,10%			Value (Ind.)
Total	33.620	100%	100%	146.444	4,36

Table 9 Model Results for all participating countries 2014 and 2015: Indicator QL 17 - After having taken part in this mobility activity...: I am more open-minded and curious about new challenges

Category	Number	Share (Total)	Share (Resp.)	Number x Value	Value (Cat.)
Strongly agree	17.705	52,67%	52,72%	88.525	5
Rather agree	12.125	36,07%	36,10%	48.500	4
Neither agree nor disagree	3.184	9,47%	9,48%	9.552	3
Rather disagree	438	1,30%	1,30%	876	2
Strongly disagree	133	0,40%	0,40%	133	1
no answer	33	0,10%			Value (Ind.)
Total	33.618	100%	100%	147.586	4,39

The indicator for the issue "Competence" for both 2014 and 2015 for all participating countries therefore is 4,19 (2014: 4,21, 2015: 4,19). In a cross-country comparison, the sub-indicators and the overall indicator of competence differ more or less clearly.

Table 10 Model Results for all participating countries 2014 and 2015: Comparison of the sub-indicators and the total indicator for “competence

	AT	EE	SF	HU	IS	NE	NO	SL	SE	<i>All Countries</i>
QL1	3,81	4,20	3,94	4,38	4,02	4,01	3,81	4,05	3,96	4,02
QL3	4,45	4,43	4,33	4,29	4,25	4,23	4,17	4,31	4,21	4,33
QL4	3,99	4,22	3,94	4,35	4,03	4,02	3,80	4,11	3,84	4,04
QL8	4,17	4,30	4,10	4,49	4,04	4,12	3,97	4,15	4,09	4,18
QL9	4,09	4,34	4,18	4,29	4,21	4,12	4,00	4,20	4,06	4,15
QL10	4,16	4,38	4,14	4,57	4,20	4,10	3,99	4,30	4,01	4,19
QL11	3,99	4,26	4,06	4,37	3,99	4,00	3,91	4,10	3,93	4,07
QL16	4,43	4,47	4,43	4,57	4,30	4,22	4,26	4,35	4,28	4,36
QL17	4,46	4,51	4,48	4,58	4,47	4,25	4,28	4,42	4,29	4,39
Total	4,17	4,34	4,17	4,43	4,17	4,12	4,02	4,22	4,07	4,19

III. 4 Statistical tests

The applied methodology combines a top-down approach with a bottom-up approach. As a first step, the selection of *candidate* survey questions to represent the various topics of the model was based on an analysis of the wording of questions and their conceptual relationship to the dimensions (top-down). As a second step, the sets of candidate questions were subjected to a series of empirical tests to verify the statistical validity of the selected questions in relation to the topics (bottom-up). Candidate questions which did not perform according to expectations of a well-defined measurement model, were subsequently dropped from the model.

The statistical tests of the impact model were based on two different data sources, namely surveys conducted among learners and staff from nine different countries.

The nine countries are:

- / Austria
- / Estonia
- / Finland
- / Hungary
- / Iceland
- / The Netherlands
- / Norway
- / Slovenia
- / Sweden

The tests were performed on the 2014 and 2015 datasets.

The logic of the various steps of the statistical analyses is described below, together with examples of the results:

Correlation analysis

Each of the six topics of the impact model is measured by several questions (variables). If one topic is represented by several variables, we would expect them to be moderately to strongly inter-correlated. Moreover, the pattern of correlation should be consistent and robust across time and space⁷. To test these assumptions, we conducted a correlation analysis on the candidate questions selected to represent each topics. When inspecting the results of the correlation analysis, we were also looking for patterns that show stronger correlations between one group of variables, compared to other groups of variables. Such patterns normally indicate that the two groups are measuring two different theoretical concepts.

Figure 2 and 3 show examples of output from the correlation analysis of the Competence-topic, the first displaying the 2015 results for Austria, the second displaying the 2015 results for each of the nine countries.

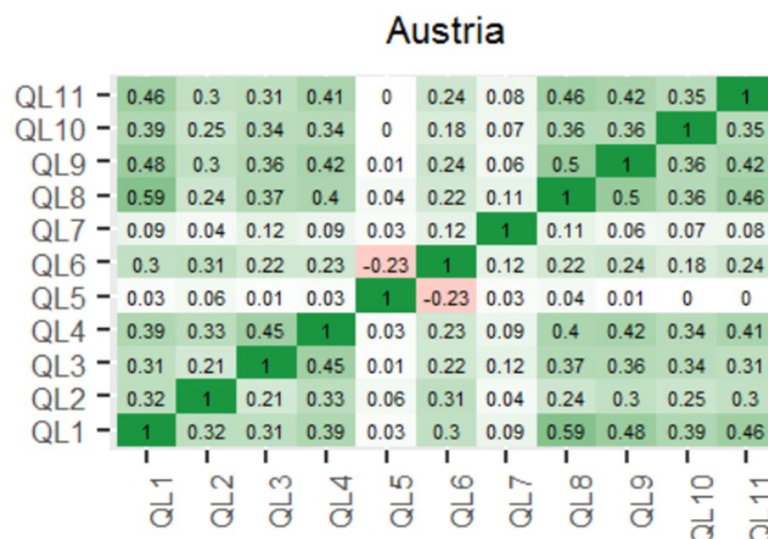


Figure 2: Correlation between the candidate variables of the Competence-concept, Austria, 2015.

In these figures, dark, green colours represent strong positive correlations, whilst dark, red colours represent strong negative correlations. When the correlation is close to 0 (no correlation), the cells are white.

While the inter-correlations between several of these variables in the Austrian case are positive and fairly strong, a few variables stand out with weak and even negative correlations. These are QL5 and QL6. We can also observe that QL2 and QL7 display weaker correlations than the rest. Moreover, there are no strong inter-correlation between the four variables that deviate from the general pattern, indicating that these variables do not constitute a group which represents a separate concept.

As illustrated in Figure 3, the patterns observed for Austria are also to a large extent reproduced in the correlation analyses of the other eight countries. The same pattern emerges on tests conducted on data from 2014. The correlation patterns are consistent across geographical context and time, substantiating the conclusion that the four deviating variables should be dropped from the model.

⁷ Acock, Alan C. (2010): A Gentle Introduction to Stata. College Station: Stata Press, 334.

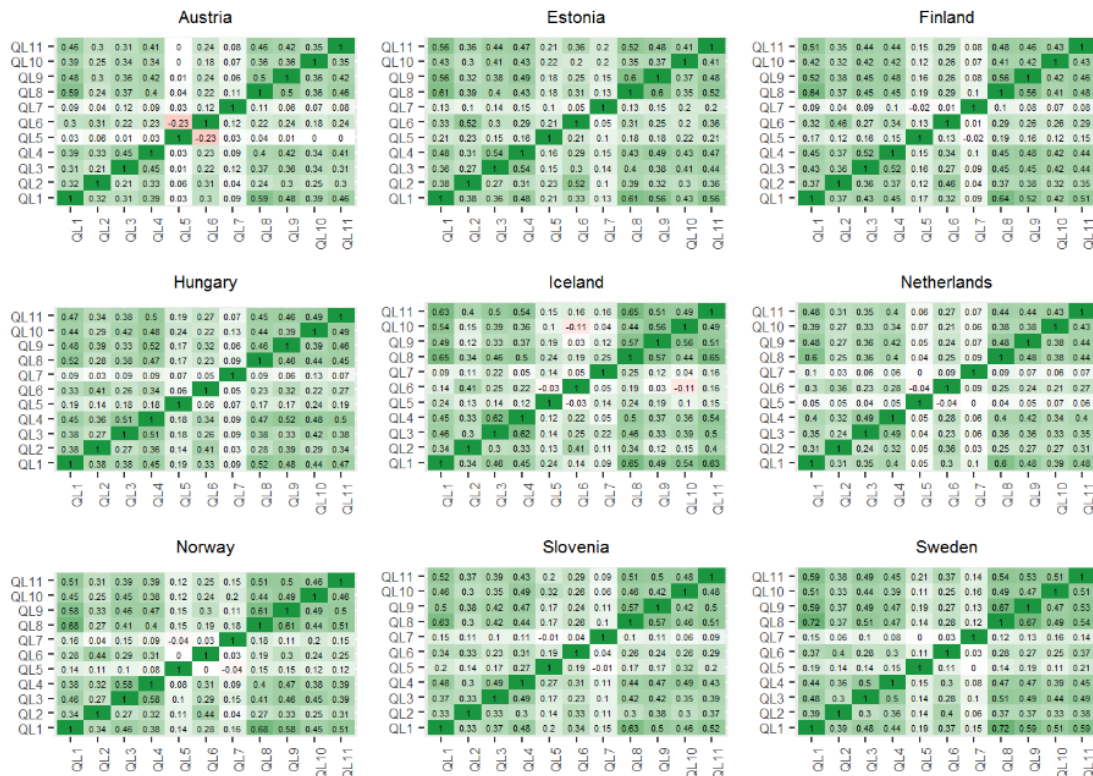


Figure 3: Correlation between the candidate variables of the Competence-concept, all nine countries, 2015.

Confirmatory factor analysis

As a second step, a confirmatory factor analysis was conducted on each set of variables. The purpose of this analysis was to test for unidimensionality, and to measure the indicators' ability to explain the variance of the theoretical concept. The expectation was to find that the candidate variables are measuring a single dominant dimension, and that the explanatory power of the variables as a group is high. If not, the model might be under-specified and there are potential indicators missing that could be added. Note that we conducted this analysis with the purpose of confirming the suggested impact model, in contrast to a more explorative approach.

Figure 4 shows the result of the factor analysis conducted on an integrated dataset with data for all nine countries from 2015. The principal components are displayed along the horizontal axis, whilst the eigenvalue of the Competence -topic is plotted on the vertical axis. The plot reveals that there is one dominant component with an eigenvalue of 4.16 which explains more than 40 percent of the variation in the data. The eigenvalue for the second component is .96 and explains around 10 percent of the variation. The rule of thumb is to keep components that has an eigenvalue larger than 1.

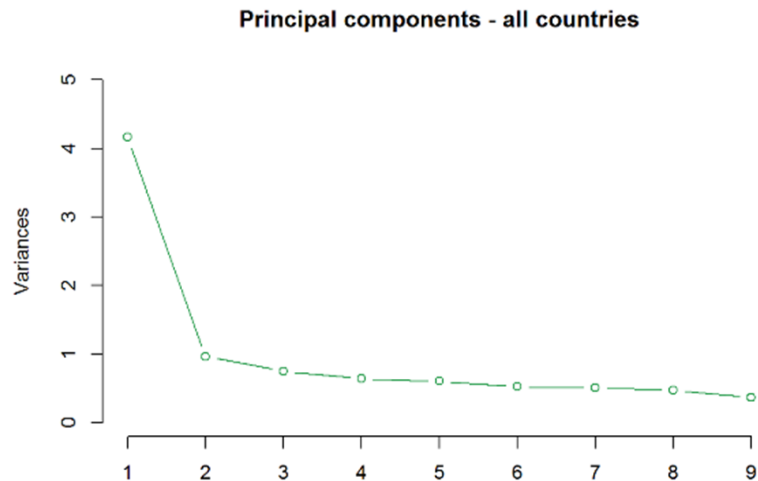


Figure 4: Principal components from the factor analysis of the Competence-topic, all countries, 2015

With a large share of the variation (more than 40 percent) explained by the first principal component, the rule of thumb is to include only variables that are highly correlated with this principal component (loads on the dimension). Variables that are more closely related to the other less important principal components can consequently be dropped.

Figure 5 displays a second plot from the factor analysis. Simply explained, this plot shows the relation of the variables to the first and second principal component. The majority of variables display a coherent pattern, pulling to the right along the axis of the first component, indicating that they should be included in the model.



Figure 4: Analysis of the loadings on the first and second principal components from the factor analysis of the Competence-topic, all countries, 2015

QL2 and QL6 display a completely different pattern, both pulling towards the higher values on the second component. This result is in accordance with the findings from the correlation analysis, and further supports the conclusion that they should be excluded from the measurement. QL5 and QL7 were already dropped at this stage of the analysis.

Cronbach's alpha

As a last step of the statistical analysis, Cronbach's alpha was calculated for the remaining variables. This is a statistic used to confirm the internal consistency of a set of variables that is proven to be unidimensional.

For the remaining variables of the Competence-topic, Chronbach's alpha returned a value of 0.85, which is satisfactory. Furthermore, the results show that if any of the remaining variables are dropped, the Chronbach's alpha is reduced and the internal validity will suffer.

For the sake of completeness, it should be noted that the Impact Assessment Steering Group meeting in Vienna decided to add two more variables as candidates for the Competence-topic. Consequently, all steps described above were repeated, with the two extra variables included in the analyses. Both variables passed the tests and improved the overall validity of the model. The eigenvalue of the first component from the factor analysis increased to 4.5, with an explained variance of 50 percent. Likewise, Chronbach's alpha rose to 0.88.

Similar tests as described above were conducted for all the 6 dimensions of the model.

IV. Conclusion and further steps

IV. 1 The status-quo of the impact assessment model: a Summary

The model MIA was developed to illustrate the effects of the programme for learners, teachers and trainers, educational institutions and society and economy of the European Union on the basis of quantitative and qualitative indicators. In an iterative process, this model has been developed in the first step for KA1 (mobility) in the field of vocational training (VET). In the current stage of the model building, the sub-model MIA-Q has been built for six main topics (Competence, Employability, Innovation, European citizenship and internationalisation, Professional development and System development) on the basis of the participants' surveys for learners and staff.

The concept of the impact assessment model MIA is based on a number of indicators in the sub-models which can easily combined to form an overall indicator. For the sub-model MIA-Q relevant questions of the surveys were selected due to their substantive and statistical validity. The data of nine participating National Agencies for the years 2014 and 2015 were tested and analysed. It can be said, that according to the statistical tests and the model results, the sub-model MIA-Q is stable and meaningful.

IV. 2 Model results: Structure of the forthcoming second part of the report

The detailed results of the model analysis will be presented in an second part of this report, due in March 2018. This report will consist of the following elements:

- / Model results for the participating countries (country reports):
 - / Overall indicator for 2014, 2015 and 2014+2015
 - / Analysis of results for the indicators of the six topics for 2014, 2015 and 2014+2015
 - / Analysis of results for the sub-indicators of each issue for 2014, 2015 and 2014+2015
- / Model results on a transnational level (transnational report):
 - / Overall indicator for 2014, 2015 and 2014+2015 and comparative analysis in regard to countries
 - / Analysis of results for the indicators of the six topics for 2014, 2015 and 2014+2015 and comparative analysis in regard to countries
 - / Analysis of results for the sub-indicators of each issue for 2014, 2015 and 2014+2015
 - / Comparative analysis of indicators in regard to gender, age and nationality

IV. 3 Next steps

In the following months the work on the impact assessment will be continued by the expert group in accordance with the agreement with the participating National Agencies, as agreed at the November 2017 Steering Meeting. This includes the following work packages:

- / Development of proposals for additional panel surveys of mobility programme participants (learners and staff) one, two and five years after participation. This includes the following steps:
 - / Development and testing of questionnaires
 - / Development of a sampling procedure to identify the participants in the panel surveys
 - / Development of a method for extrapolating the survey results to the population of the primary surveys
 - / Extension or addition of the model MIA-Q to the results of the panel surveys
- / Extension of the Model MIA in regard to Adult Education. This includes the following steps:
 - / Acquisition of National Agency data and analysis of participant surveys (learners and staff) regarding the plausibility and reliability of the data
 - / Selection of the question set for the formation of sub-indicators for the six topics, analogous to the field of vocational education
 - / Creation of a consistent database including additional information (gender, age, nationality, etc.) from the programme data and taking account of data protection aspects
 - / Statistical test procedures for the final selection of indicators
 - / Model calculations at national and transnational level analogous to the field of vocational education
 - / Preparation of reports

In order to continue the model work in the sense described, a follow up TCA has already been applied for and been approved by the European Commission covering the period from January 2018 to June 2019.

V. ANNEX: Selected model results of MIA-Q

Illustration A-1: Model Results all countries 2014

MIA-Q: 3,93 (23,57)					
Competence 4,21	Employability 4,16	Innovation 3,77		European Citizenship 3,72	Professional development 4,01
Learners	Learners	Learners	Staff	Learners	Staff
QL1 4,03 QL3 4,34 QL4 4,06 QL8 4,20 QL9 4,17 QL10 4,21 QL11 4,07 QL16 4,37 QL17 4,42	QL12 4,11 QL13 4,28 QL14 4,11 QL15 4,15	QL18 3,91	QS2 3,93 QS3 3,68 QS4 3,34 QS5 3,97	QL20 3,53 QL21 3,86 QL23 3,65	QS6 3,83
					personal: 4,25 QS9 4,43 QS13 4,28 QS14 3,94 QS15 4,35
					pedagog.: 3,80 QS8 3,89 QS11 4,01 QS17 4,03 QS20 3,26
					Manag.Org.: 3,75 QS10 3,89 QS12 3,74 QS16 3,90 QS21 4,37
					Staff
					QS23 3,80 QS24 3,29 QS25 4,10

Illustration A-2: Model Results all Countries 2015

MIA-Q: 3,89 (23,36)					
Competence 4,17	Employability 4,09	Innovation 3,73		European Citizenship 3,66	Professional development 3,98
Learners	Learners	Learners	Staff	Learners	Staff
QL1 4,00 QL3 4,30 QL4 4,02 QL8 4,16 QL9 4,14 QL10 4,17 QL11 4,06 QL16 4,34 QL17 4,37	QL12 4,02 QL13 4,22 QL14 4,05 QL15 4,08	QL18 3,90	QS2 3,88 QS3 3,63 QS4 3,30 QS5 3,96	QL20 3,53 QL21 3,84 QL23 3,61	QS6 3,65
					personal: 4,23 QS9 4,40 QS13 4,25 QS14 3,92 QS15 4,35
					pedagog.: 3,76 QS8 3,71 QS11 4,01 QS17 4,01 QS20 3,31
					Manag.Org.: 3,96 QS10 3,88 QS12 3,71 QS16 3,90 QS21 4,35
					Staff
					QS23 3,77 QS24 3,27 QS25 4,11

Illustration A-3: Model results all countries 2014 + 2015

MIA-Q: 3,91 (23,47)						
Competence 4,19	Employability 4,13	Innovation 3,75		European Citizenship 3,69		Professional development 4,00
Learners	Learners	Learners	Staff	Learners	Staff	Staff
QL1 4,02 QL3 4,33 QL4 4,04 QL8 4,18 QL9 4,15 QL10 4,19 QL11 4,07 QL16 4,36 QL17 4,39	QL12 4,07 QL13 4,25 QL14 4,08 QL15 4,12	QL18 3,90	QS2 3,90 QS3 3,66 QS4 3,32 QS5 3,96	QL20 3,53 QL21 3,85 QL23 3,63	QS6 3,74	personal: 4,24 QS9 4,42 QS13 4,27 QS14 3,93 QS15 4,35 pedagog.: 3,78 QS8 3,79 QS11 4,01 QS17 4,02 QS20 3,29 Manag.Org.: 3,97 QS10 3,88 QS12 3,72 QS16 3,90 QS21 4,36
						QS23 3,78 QS24 3,28 QS25 4,10

Illustration A-4: Model MIA-Q: Stability of Results

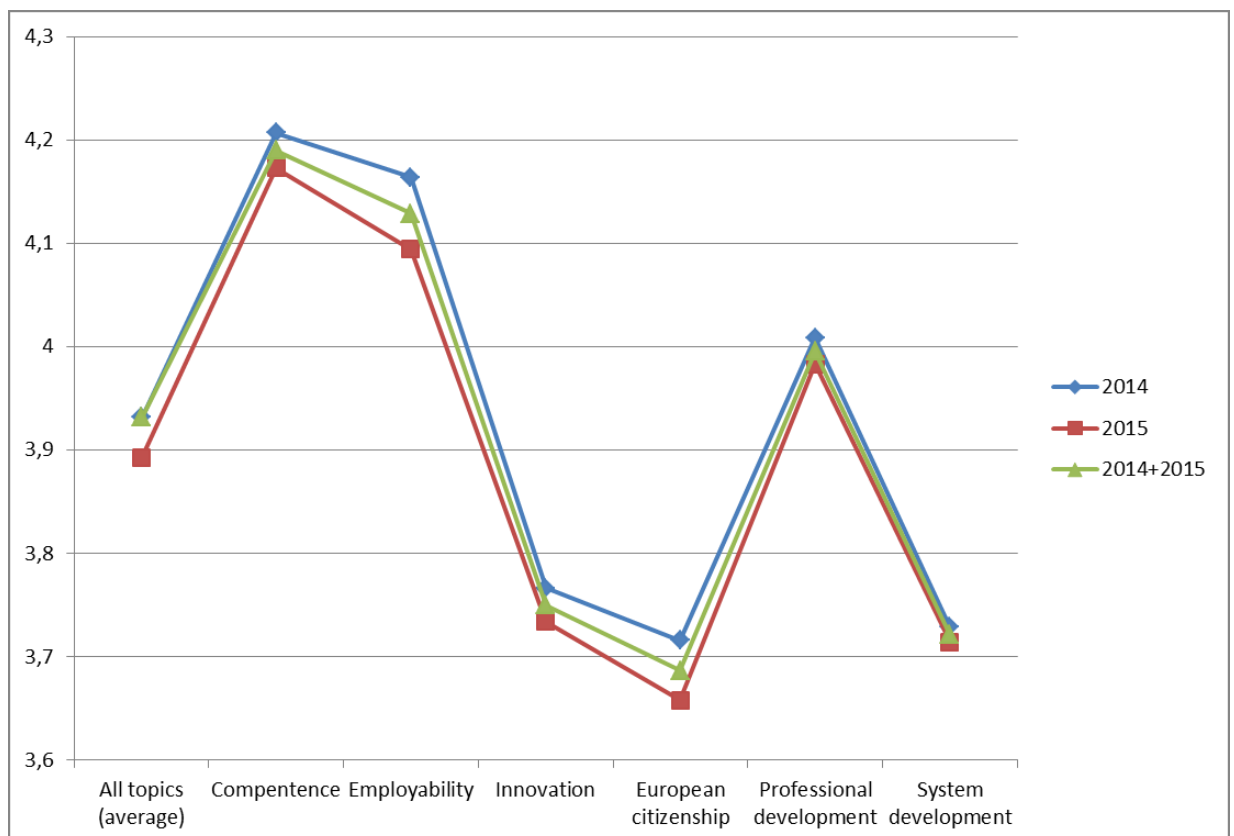


Illustration A-5: Model MIA-Q: Average change from 2014 to 2015 (all countries)

