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Verification Study of the Environment of the Implementation of Interventions of Priority Axes 1, 2 and 3 OP RDE and Verification of the Relevance of their Specific Objectives

Ministry of Education, Youth and Sports

Updated Final Report

March 2017

Final Version

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Operational Programme Research, Development and Education

MINISTRY OF EDUCATION, YOUTH AND SPORTS

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List of abbreviations

Abbreviation	Explanation
AP	Activity Plan
ASI	Agency for Social Inclusion
CERMAT	Centre for Education Methods Assessment
CR	The Czech Republic
CSI	Czech School Inspectorate
EC	European Commission
EQ	Evaluation Question
ERDF	European Regional Development Fund
ES	Elementary School
ESF	European Social Fund
EU	European Union
HS	High School
ICT	Information and communications technology
IP	Investment Priority
IROP	Integrated Regional Operational Programme
IT	Information Technology
ITI	Integrated Territorial Investment
LAP	Local Action Plan
MEYS	Ministry of Education, Youth and Sports
NDI	National Database of Indicators
NS	Nursery School
OECD	Organization for Economic Co-operation and Development
OP	Operational Programme
OP EIC	Operational Programme Enterprise and Innovation for Competitiveness
OP RDI	Operational Programme Research and Development for Innovation
OP EC	Operational Programme Education for Competitiveness
OP RDE	Operational Programme Research, Development and Education
PA	Priority Axis
PE	Primary Education
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
Q	Quarter
R&D	Research and development
RAP	Regional Action Plan
RDI	Research, development and innovation
RIS3	Research and Innovation Strategy for Smart Specialization
SAP	School Action Plan
SEN	Special educational needs of support or compensating measures, arising from the life or personal situation of the pupil, e.g. socio-economic, health, cultural or family background, ethnic origin etc. as well as special educational needs to develop natural gifts and talent
SN	Specific Needs
SO	Specific Objective
S-RAP	Regional Action Planning Support

Abbreviation	Explanation
SRP	Strategic Planning in Schools and Regions
SS	Secondary School
TC	Thematic Objective
TIMSS	Trends in International Mathematics and Science Study
VIP II Career	Career counselling with the Curricular reform

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1 Executive Summary and Main Conclusions

Field I: Mapping / Analysis of the current state of the environment in which interventions PA1, PA2, and PA3 are to be realized in terms of defined SO

PA1: Strengthening capacity for high-quality research

The analysis of the current state of the R&D environment has not shown, at the SO level, any significant changes requiring amendment of the text of the Operational Programme. The key needs in the R&D environment as identified in the programme document have not been changed. The following topics (stated by the program document as the objectives of interventions) are seen as relevant and timely, although low priority is ascribed to them by the prospective applicants for financial aid:

- The need to develop newly built centers (infrastructure support) and the improved availability of research infrastructure in the open access regime.
- The need to intervene in the process of development of the intelligence specialization on the national level.

Changes in the R&D environment, that have occurred since 2013 (e.g. establishing the National Research and Innovation Strategy for Smart Specialization CR, approval of the National Policy of Research, Development and Innovations 2016-2020, creation of National Sustainability Program I and II), **have not reduced the relevance of planned interventions of OP RDE. Interventions of OP RDE are in accordance with the new strategic documents and other interventions at the national level.**

PA2: Development of universities and human resources for research and development

The analysis of the current state of the tertiary education environment has not shown, at the SO level, any significant changes requiring amendment of the text of the Operational Programme. The key needs in the tertiary education environment as identified in the programme document have not been changed. The priority ascribed to needs of investment in the following areas is lower in relation to other areas PA2:

- Improving conditions for life-long learning at universities.
- Modifying of spaces and purchasing necessary equipment in order to compensate students from disadvantaged groups.

Since 2013 there has been an amendment of tertiary education Act, which (among others) set up a new accreditation institution with a new set of rules concerning obtaining accreditation by tertiary education institutions. At the time of the research, implementing regulation haven´t set clear rules of functioning of the new accreditation institution, which the new law introduced. OP RDE projects that should result in creation of new study programs and acquiring accreditation, therefore **suffer from uncertainty about whether colleges and universities will be able to meet the objectives of their projects**. This might discourage these institutions from applying for OP RDE projects that would e. g. aim at creating new study programs.

PA3: Equal access to high-quality pre-school, primary and secondary education

The analysis of the current state of the pre-school, primary and secondary education environment has not shown, at the SO level, any significant changes requiring amendment of the text of the Operational Programme. The key needs in area of pre-school, primary and secondary education as identified in the program document have not been changed. Low priority has been ascribed to the need for investment in ICT usage for diversification of teaching and also invidualization of teaching was assessed as low. Schools wish to continue funding of development of ICT competencies of their teachers and modernizing ICT equipment.

For primary and secondary education institutions, these significant changes in environment have been identified since 2013:

- **Regional Schools Funding Reform – with no direct impact on the thematic relevance of OP RDE.**
- **Amendment of the Schools Act concerning education of pupils with special needs and inclusion of disadvantaged children (§ 16) – interventions OP RDE are significantly focused on implementing the new law, more precisely it's implementing regulation.**

Field II: Verification of the Change in OP RDE needs, SO relevance

There is no overlap in established specific objectives. From the applicants` point of view, the statement of supported activities of OP RDE is relatively non-specific. Therefore it is necessary to clearly state specification of supported activities by a call. Also it is highly recommended to state a list of specific examples of activities that will be supported from the calls. The reasoning behind it is that potential applicants might suppose wrongly that their project cannot qualify for OP RDE support, because project activities are not specifically mentioned in the OP RDE document / in the calls (e.g. sports activities support in PA3, support for schools founded according to § 16 of the Schools Act) and thus those potential applicants are not even interested in applying.

According to the conducted research no change has occurred in the environment of primary and secondary education or tertiary education or the research and development environment. Since the planning of OP RDE interventions, there have been no significant changes that would require change in thematic focus of the OP RDE. Therefore, we do not consider changing the original synergic links and complementarities, as described in appendix H of the OP RDE, necessary. We suggest adding new complementary links between projects OP RDE PA1 IP 1 SO1, SO3 and PA2 IP1 SO5 and the following TA CR programmes (these programmes focus on increasing the number of results and supporting applied research in various fields):

- Programme Alfa;
- Programme Beta 2;
- Programme Delta;
- Programme Epsilon;
- Programme Zeta;
- Programme Eta;
- Programme Theta.

The current system of designing Local Action Plans and Regional Action Plans is relevant to the needs of regional educational system. We suggest it remains unchanged. However, if the design of LAP/RAP does not lead to improving relevance and effectiveness of the process by which schools acquire

financial aid from OP RDE, they might become less popular and the basic objectives of MEYS will not be met.

The current system of objectives via Integrated Regional Strategies in PA1 is seen as relevant. Universities and R&D institutions perceive the many differences in needs of various institutions within R&D (public and private research organisations, universities, etc.) as most pressing risk in implementation of RIS3. Interventions coordinated by the ITI mechanism should be able to coordinate those needs.

PA1: Increasing capacity for high quality research

The analysis of the current development needs of the R&D environment has not shown any significant changes. All SO have been confirmed as relevant and also from the potential applicants 'point of view as a priority, despite of some minor aspects having lower priority (specifically the need to support development of newly built centers and improvement of availability of research infrastructure in the open access regime; the need to intervene in the process of development of the intelligence specialization on the national level.)

PA2: Development of higher education and human resources for research and development

The analysis of the current development needs of the tertiary education environment has not shown any significant changes, despite some minor topics having lower priority (improvement of conditions for life-long learning at universities and modification of spaces and purchase of necessary equipment in order to compensate students from disadvantaged groups).

The research showed that the following PA2 objectives are of high priority:

- PA2 IP1 SC1: Improving the quality of education at universities and its relevance for the needs of the labour market;
- PA2 IP1 SO4: Setting up and developing an evaluation system and ensuring the quality and strategic management of tertiary education institutions;
- PA2 IP1 SO5: Improving the conditions for education related to research and for the development of human resources in research and development;
- PA2 IP2 SO1: Improving the education infrastructure at higher education institutions in order to ensure a high quality of education, improving access for disadvantaged groups and increasing the openness of higher education institutions.

The following objectives are seen as relevant but not prioritized:

- PA2 IP1 SO2: Increasing the participation of students with special needs, from socio-economically disadvantaged groups and from ethnic minorities in higher education, and decreasing the drop-out rates of students;
- PA2 IP1 SO3: Improving conditions for life-long learning at universities.

PA3: Equal access to high quality pre-school, primary and secondary education

The analysis has not shown any significant changes in the pre-school, primary and secondary education environment, despite the need of investment in ITC for diversification of teaching having low priority.

The following PA3 objectives are seen as relevant:

- PA3 IP1 SO1: Improving the quality of pre-school education, including facilitating the transition of children to primary school;
- PA3 IP1 SO2: Improving the quality of education and achievement of students in key competencies;
- PA3 IP1 SO3: Developing a system of strategic management and quality assessment in education;
- PA3 IP1 SO4: Improving the quality of teachers` training;
- PA3 IP1 SO5: Improving the quality of education and vocational training, including strengthening their labour market relevance;
- PA3 IP2 SO1: Quality conditions for inclusive education.

The following objective is seen as relevant but not as a priority: PA3 IP3 SC1: Social integration of children and pupils including the integration of Roma children into education.

Field III: Evaluation of the Current System of Indicators and Suggestions for its Improvement

All program indicators PA1, PA2 and PA3 are seen as relevant with regard to the intervention rationale and the current state of environment. The Analysis only showed the potential for misleading interpretations in the process of evaluation of some indicators that might cause duplicity in values within the indicator system of OP RDE. Therefore a proposal of a more specific process of calculation has been drafted. Based on the analysis, a new indicator has been suggested – Number of platforms for professional meetings. Because main indicators are approved by the European Commission, we suggest the indicator to be used as an internal indicator for the specific evaluation needs of MEYS.

Possible risks in the sense of objectionable activities for the purpose of achieving accountable values of main indicators were identified with the rating of **moderately serious risks**:

- **Low willingness for completing questionnaire cards – especially in PA2.** The risk needs to be addressed especially by MEYS supervision of project applications – projects which are intended to support persons under the level of minimal support should not be approved. We also suggest a consistent supervision over completing questionnaires during on-the-spot control.
- **Difficult measurability of the qualitative part of indicators` values** (e.g. Number of institutions where the quality of proinclusive education has been increased, or 5 25 10 workers in education, who actively use newly acquired knowledge and skills). The risk should be addressed by a consistent supervision of projects on-the-spot and especially the recorded answers in questionnaires (and a comparison of the actual state of given issue), in which qualitative improvement is indicated at the institutional or personal level. Also it is highly recommended to emphasize correct filling steps of project documentation during the introductory seminars.

Disclaimer:

This document is English translation of original document in Czech. In case of discrepancy between the Czech original text and the English translation, the Czech text shall prevail. The contractor is responsible for the correctness of the English translation.

1 Introduction

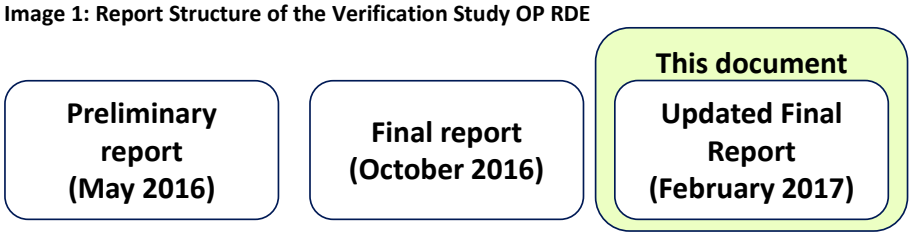
This is the Updated Final Report of the Verification Study of the Environment in which Interventions of the Priority Axes 1, 2 and 3 of the OP Research, Development and Education are to Be Realized; and Evaluation of the Relevance of their Specific Objectives. The Final Report study comprises of the analysis of the current state of the primary, secondary and tertiary education as well as research and development environment, the needs for development in these fields, and an analysis of the OP RDE system of indicators (program and context indicators and other data for intervention evaluation). The aim was to create a basis on which OP RDE interventions and their impact will be evaluated in the future especially in relevance to the OP RDE evaluation plan.

The Final Report created a basis on which it is possible to effectively measure the development and contribution of the programme on the level of priority axes – PA1 (research and development), PA2 (university education) a PA3 (primary and secondary education) – and their specific objectives. This Updated Final Report updates the findings and conclusions drawn in the Final Report. It is based on new data acquired from the Czech Statistical Office by 31st of January 2017 and new data and information sources and further development in the areas supported by OP RDE (e.g. the Annual Report CSI 2015/2016, the current development in legislature, etc.). Only deskresearch activities such as analysis of secondary data and information sources were used.

The study presents conclusions based on the analysis of relevant primary and secondary sources and information sources and it is divided into thematic fields as follows:

- Field I: Mapping / analysis of the current state of the environment in which interventions PA1, PA2, and PA3 are to be realized in terms of defined SO;
- Field II: Reevaluation of the changes in development needs of OP RDE, relevance of SO;
- Field III: Evaluation of the current system of indicators and suggestions for its improvement.

Image 1: Report Structure of the Verification Study OP RDE



Source: Contract

2 Methodology and Conducted Enquiry

For the purpose of obtaining information and data used for the Final Report, the following enquiry has been conducted. The detailed description of the methodology used in this research can be found in the Preliminary report. This Updated Final Report updates the findings and conclusions drawn in the Final Report. It is based on new data acquired from the Czech Statistical Office by 31st of January 2017 and new data and information sources and further development in the areas supported by OP RDE (e.g. the Annual Report CSI 2015/2016, the current development in legislature...). Updated Final Report document stems from Final report document and it was created in following steps.

- A survey of the new information sources (e.g. CSI annual report 2015/2016, macro-economic and sector analysis for CR).
- A survey of updated data sources – it has been verified that the secondary data used for the Final Report have not been update (e.g. Eurostat data, Czech Statistical Office etc.).
- If any new information was identified in the survey, this information has been written in the specific chapters of the analytical part of the Final Report document (appendix). If the new information was of such significance that a change to the original answer to the evaluation question was required, the change was written in the corresponding chapters of the Final Report.
- The executive summary in the Final Report has been changed accordingly.

According to the agreement with MEYS fields I and II of the Final Report have been updated. Field III has not been changed. The update of the Final Report was based on secondary data in information sources available at the time of the update. No further primary research was conducted.

2.1 Interviews

The enquiry includes 17 interviews with representatives of institutions which, in the Preliminary report, were identified as the key stakeholders of the priority axes 1, 2 and 3. The purpose of the interviews was to collect opinions of these stakeholders about the current state of the OP RDE intervention environment and to identify the potential for change in the environment or the change in needs (the answers to evaluation questions of field I and field II.). Following interviews were conducted.

- Pre-School Education Association;
- Secretary of the Operational Programme Directorate;
- The Elementary School Headmasters` Association;
- The High School Headmasters` Association;
- The Industrial School Headmasters` Association;
- Research, Development and Innovation Council;
- OP 3 Executive (meeting with the executive and the team members PA3);
- OP 1 Executive (meeting with the executive and the team members PA1);
- OP 2 Executive (meeting with the executive and the team members PA2);
- Czech School Inspectorate;
- Technology Centre CAS;
- Technology Agency of the Czech Republic;
- Work Groups for program making 2014 - 2020 OP Employment;
- Work Groups for program making 2014 - 2020 OP EIC;

- Executives in specific PA IROP;
- Executives in specific PA OP Prague – growth pole;
- MEYS specialists in statistics and indicators.

2.2 Focus Groups

The enquiry also includes 4 focus groups set up with representatives of institutions which, in the Preliminary report, were identified as the key stakeholders of the priority axes 1, 2 and 3. The focus groups were organized to discuss the key topics of the OP RDE identified in the OP RDE program document (inclusion, regional dimension of RAP and LAP) or to distinguish specific needs and opinions about the focus of OP RDE (universities in Prague versus universities in other cities of CR, including R&D institutions). The purpose of the focus groups was to acquire the opinions of those stakeholders on the current state of the OP RDE environment and to identify possible changes in needs or in the environment (the answers to evaluation questions of the thematic fields I and II). Following focus groups were established for this purpose.

- Inclusion and its Impact on Czech Education System;
- Prague Universities (inc. R&D institutions);
- Universities in other cities (inc. R&D institutions);
- Regional Dimension of OP RDE.

2.3 Questionnaire Survey

2.3.1 PA1: Research and Development

The questionnaire survey was carried out in three rounds. In the first and second rounds, university representatives at the faculty level (deans of educational programs, deans of development programs, deans of R&D) were approached. In the second round, the survey was distributed to the members of the Czech Conference of Chancellors by its secretary. The third round included a questionnaire survey at the R&D institutions which are not affiliated with universities.

Table 1: PA1 Survey and Response Rate – R&D

Questionnaire	Participants	Respondents	Response Rate
Universities – Faculties	448	86	19 %
Universities – Rectors(Chancellors)	49[1]	21	43 %
R&D Institutions	133	33	25 %
Total	**581**	**140**	**24 %**

Source: Questionnaire Universities – Faculties, Universities – Rectors (Chancellors), R&D Institutions, own computation

[1] Addressed through the Secretary of Czech Conference of Chancellors.

Table 2: PA1 Survey Respondents – R&D

Questionnaire	Basic Research	Applied Research	Total
Universities – Faculties	51	53	104
Universities – Rectors (Chancellors)	13	12	25
R&D Institutions	21	24	45
Total	**85**	**89**	174

Source: Questionnaire Universities – Faculties, Universities – Rectors (Chancellors), R&D Institutions, own computation

2.3.2 PA2: Educational Programs at Universities

The survey was conducted along with the first two rounds of the inquiry in PA1. Questionnaires sent out to universities and colleges (at the faculty level, and the rectorate level) contained questions from the questionnaire of R&D and educational programs at universities.

Table 3: PA2 Survey Respondents – Universities

Questionnaire	College	University	Total
Universities – Faculties	1[2]	83	84
Universities – Rectors (Chancellors)	8	10	18
Total	**9**	**93**	**102**

Source: Questionnaire Universities – Faculties, Universities – Rectors (Chancellors), own computation

2.3.3 PA3: Primary and Secondary Education

Three respective questionnaires were sent out. The first one was sent to schools of primary and secondary education, the second one was sent to founding authorities and the third one was sent to institutions providing after-school activities and education. The following tables and charts present descriptive statistics of the numbers of respondents.

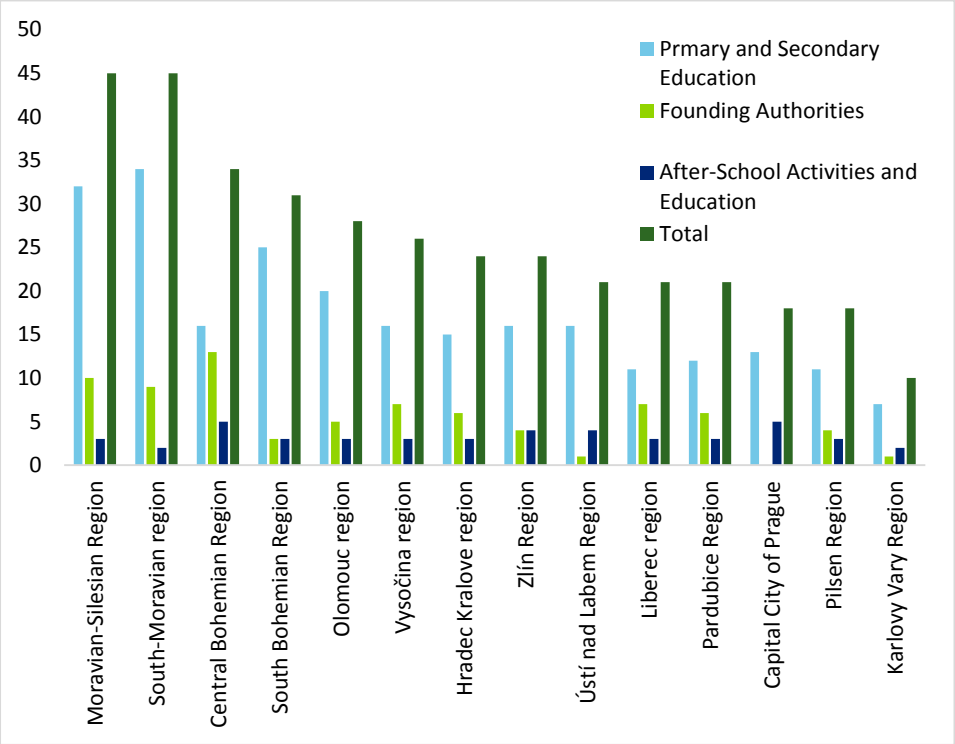
Table 4: PA3 Conducted Survey and Response Rate – Primary and Secondary Education

Questionnaire	Participants	Respondents	Response Rate
Primary and Secondary Education	1 085	247	23 %
Founding Authorities	634	80	13 %
After-School Activities and Education	451	13	3 %
Total	**2 170**	**340**	**16 %**

Source: Questionnaire Primary and Secondary Education, Founding Authorities, After-School Activities and Education, own computation

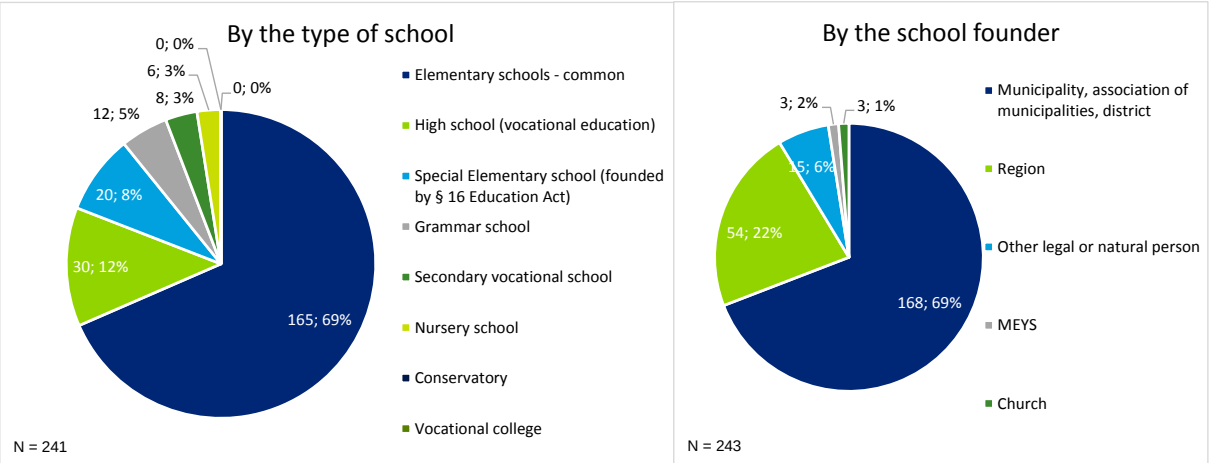
[2] According to Universities Act colleges are not devided into faculties.In this case, value stated here means that the respondent works at a college and is not a member of its management.

Graph 1: PA3 – Respondents in Respective Regions



Source: Questionnaire Primary and Secondary Education, Founding Authorities, After-School Activities and Education, own computation, September 2016

Graph 2: PA3 – Schools of Primary and Secondary Education According to the Type of School and the Founding Authority



Source: Questionnaire Primary and Secondary Education, own computation, September 2016

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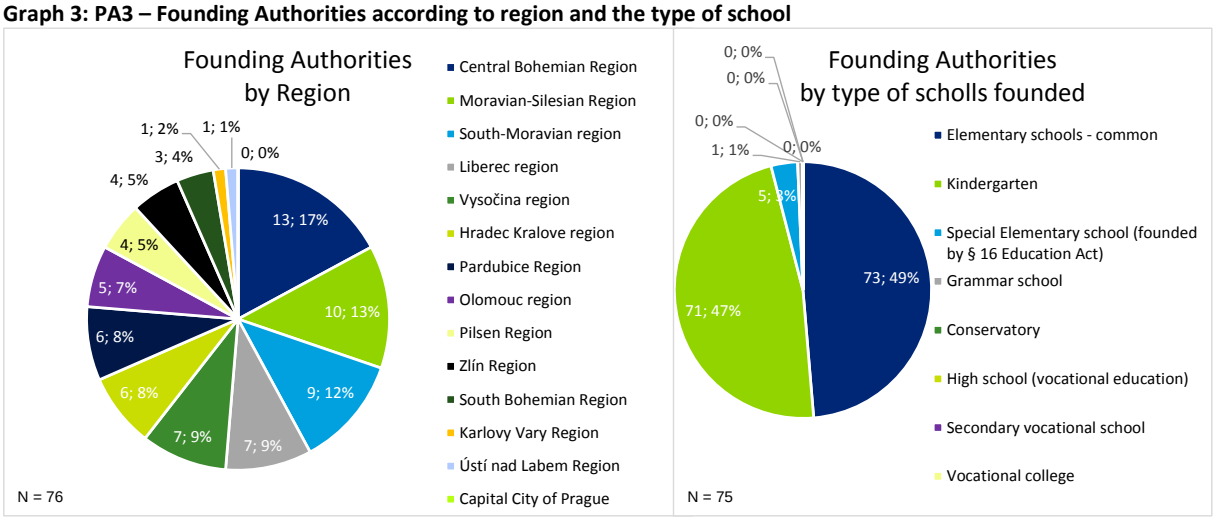
Graph 3: PA3 – Founding Authorities according to region and the type of school



Source: Questionnaire Founding Authorities, own computation, September 2016

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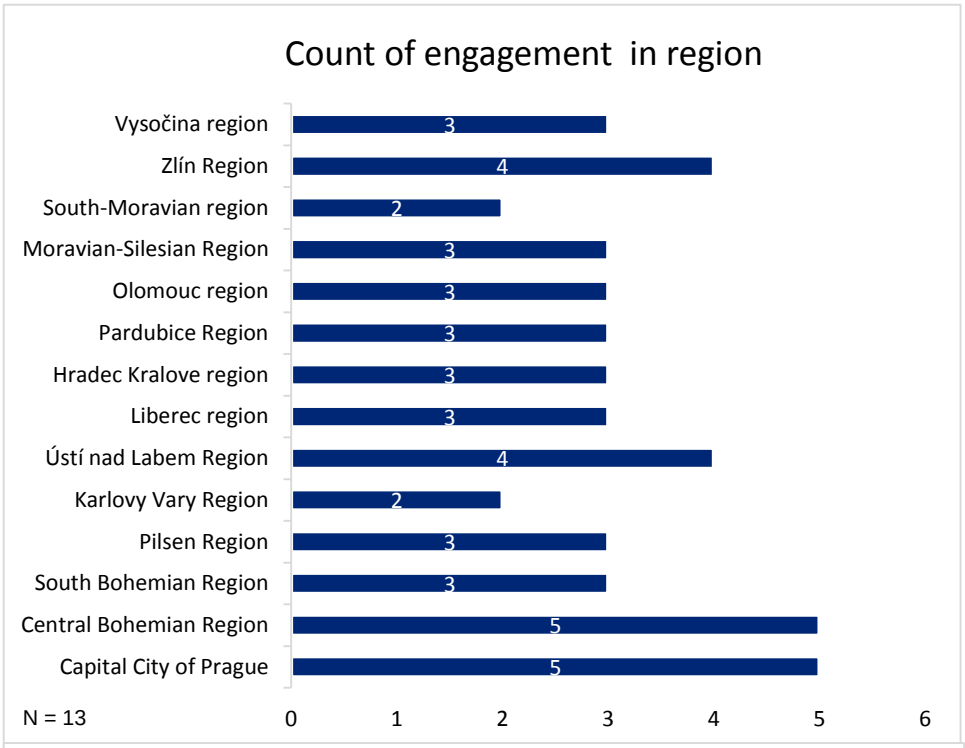
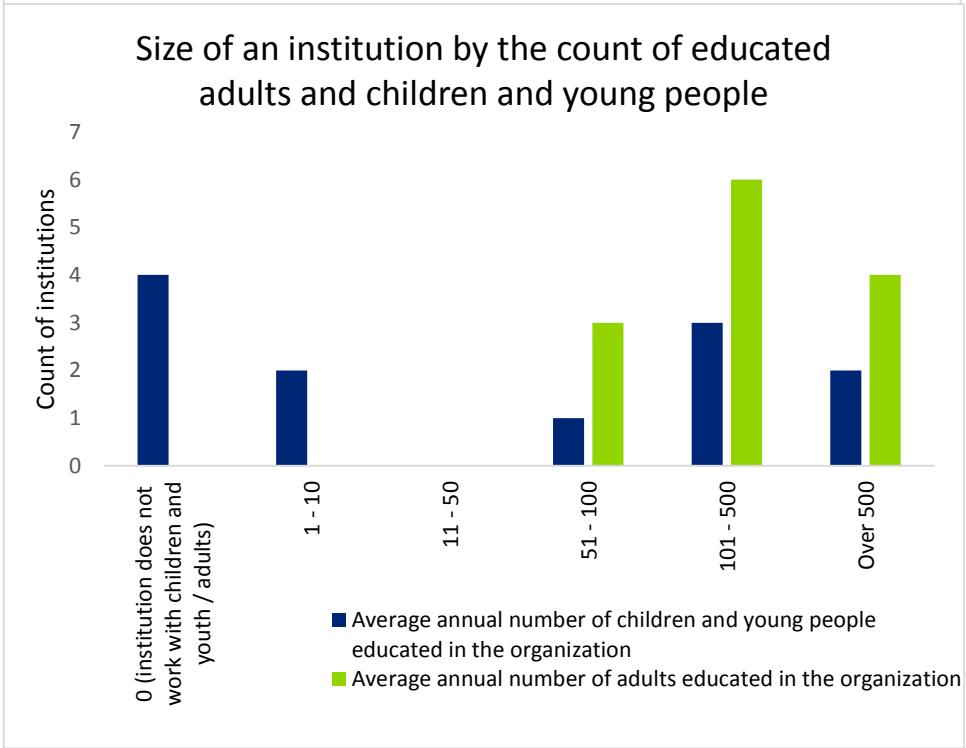
Graph 4: PA3 – After-School Activities Providers According to Regions and the Numbers of Children and Adults Being Educated





Source: Questionnaire After-School Activities and Education, own computation, September 2016

2.4 Workshops and Consultation with MEYS Representatives

Each part of the inquiry report was discussed with MEYS representatives at work meetings. Protocols of those meetings have not been written, the results and recommendations were written in the reports and materials that were being discussed.

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They were discussed in the following manner:

- Questionnaire Survey Commission in PA1, PA2 and PA3;
- Revision and context indicators and other intervention evaluation data proposal PA1, PA2 and PA3 (PA3 with the active participation of CSI representatives);
- Revision and program indicators proposal PA1, PA2 and PA3.

2.5 Deskresearch Analysis

The following analyses, which used mainly sources laid out in chapter 6, were also carried out. A more detailed description can be found in the Preliminary report.

- Secondary Information Sources Analysis (documents);
- Secondary Data Analysis (data MEYS, Eurostat etc.);
- Impact Analysis;
- Comparative Analysis/Gap Analysis;
- Linear Matching Pair Comparison – the analysis was not carried out. There were no new issues, that would need to be addressed, identified;
- Binary Comparison Matrix of SO and its results and ant the result indicators.

3 Data Analysis

The rationale of the analytical processes is described in detail in the Preliminary report of the Verification Study. Both primary and secondary sources were used. The purpose of data and information analysis was to acquire knowledge relevant to answering evaluation questions.

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4 Main Conclusions and Recommendations

4.1 Field I: Mapping / Analysis of the current state of the environment in which interventions PA1, PA2, and PA3 are to be realized in terms of defined SO

4.1.1 EQ 1.1: What are the changes in the contextual indicator values and data, on which the needs of the respective SO PA1, 2 and 3 are based?

4.1.1.1 PA1: Increasing capacity for high quality research

Based on the analysis, no significant changes concerning the key PA1 problems and needs at the SO level, as defined in the OP RDE program document, were identified. The analysis of the current state of the environment revealed the following:

- **The program document states that significant decline in the numbers of university students majoring in science and technology subjects, compared to students of other disciplines, has occurred. The study proved no such thing.** The ratio changed from 25 % to 15 % between 2001 and 2012 according to OP RDE. This figured has not been confirmed by the MEYS SIMS database. The database only shows a decline from 29 % to 23 % among students of the bachelor and master`s programs and a decline from 37 % to 31 % among doctoral candidates. These figures show that the ratio of students in technology-oriented study programs is still dominant. We do not see this disparity as a major problem in relation to the aim of the PA1 and therefore we do not see any need to change the text of the OP in the PA1 intervention area.
- **The need to develop newly built centers (infrastructure support) and the improved availability of research infrastructure in the open access regime is not seen as a priority.** The need has been acknowledged but with little priority. 47 % of the questionnaire survey respondents stated that the need of investment in further development of newly-built centers was not a pressing matter. The total of 61 % of respondents stated that R&D infrastructure in the open access regime was needed.
- **The need to intervene in the process of development of the intelligence specialization on the national level is not a priority in the R&D area.** Only 52 % of respondents stated that an intervention was needed.

4.1.1.2 PA2: Development of higher education and human resources for research and development

Based on the analysis, no significant changes concerning the key PA2 problems and needs at the SO level, as defined in the OP RDE program document, were identified. The survey showed that the need of investment in order to improve access for disadvantaged groups (modifying spaces) and to purchase necessary equipment to compensate disadvantages of these groups is relatively low. The need is a priority for only 51 % of respondents of the questionnaire survey. School and professions associations do not see the problem as important either. However the need is seen as still relevant to current issues.

4.1.1.3 PA3: Equal access to high quality pre-school, primary and secondary education

Based on the analysis, no significant changes concerning the key PA3 problems and needs at the SO level, as defined in the OP RDE program document, were identified. Supporting schools in using ICT for educational purposes and for diversification and individualization of lesson plans was identified as an area of low priority. The level of ICT usage is seen as rather satisfactory but schools representatives are seeking to use ICT to improve teachers` training. Also, the need to be provided with new equipment.

4.1.2 EQ 1.2: What are the suitable indicators (including context indicators or other data) for evaluation of the interventions and the environment in which interventions of SO PA1, 2 and 3 OP RDE are realized(evaluation of the already drafted indicators, including context indicators, possible drafting of new indicators, including definition of the current level of indicators)?

The original indicators and other data of the PA1, 2 and 3 were deemed satisfactory in most cases. Only some data, the so-called other indicators, were deemed irrelevant for the evaluation of interventions PA1 and 2. This new set of data was drafted for the purpose of completing the current set of indicators so that the contextual analysis of the interventions OP RDE in PA1 and PA2 is possible:

PA1: Increasing capacity for high quality research

PA1 IP1 SO1 Improving international quality of research and its results	• CR rank in "Capacity of a Country to Keep its Talents" (7.08) • CR rank in "Capacity of a Country to Attract Talents" (7.09) • CR rank in European Innovation Scoreboard • CR rank in "Quality of R %D Institutions" (12.02)
PA IP1 SO2 Building capacity and strengthening long-term co-operation of research organizations with the application sphere	• CR rank in "Co-operation between Universities and Industrial Sector in R&D" (12.04)
PA1 IP1 SO3 Improving the infrastructure for research in education	• Annual ratio of doctoral programs graduates in the number of all graduates of doctoral programs • Development of the university applications ratio – according to region • Development of the university applications ratio – according to study program
PA1 IP1 SO4 Improving strategic management of research at national level	• N/A – no further data were drafted / other indicators for interventions evaluation

Data suitable for the evaluation of interventions **PA1 IP1 SO4 should be supplemented by an evaluation –** they indicate the state of R&D. The specific objective should develop strategic management of R&D policy and it should implement a new motivation system of evaluation. Finally, it should create a tool for coordination of international R&D activities and create a system of centralized access to information sources. The given indicators do not provide us with any information about development in these areas. Therefore, we propose to supplement the indicators with a complex evaluation in the area of R&D management at the national level.

PA 2: Development of higher education and human resources for research and development

PA2 IP1 SO1 Improving the quality of education at universities and its relevance for the needs of the labour market	• Unemployment rate of university graduates - ages 15 to 65 • Unemployment rate of university graduates - ages 25 to 29

PA2 IP1 SO2 Increasing the participation of students with special needs, from socio-economically disadvantaged groups and from ethnic minorities in higher education, and decreasing the dropout rates of students	• Number of students with a social stipend who earned a degree (Bachelor`s, Master's or Doctoral) • Proportion of students with a social stipend
PA2 IP1 SO4 Setting up and developing an evaluation system and ensuring the quality and strategic management of higher education institutions	• Improvement / deterioration of universities according to self-evaluation
PA2 IP1 SO5 Improving the conditions for education related to research and for the development of human resources in research and development	• Number of employees in R&D in business sector • Number of employees in R&D in tertiary education sector • Number of employees in R&D in government sector • Number of employees in R&D in science sector • Number of employees in R&D in technology sector • Number of employees in R&D in medical sciences sector • Number of employees in R&D in agriculture sector • Number of employees in R&D in social sciences sector • Number of employees in R&D in humanities sector
PA2 IP2 SO1 Improving the education infrastructure at higher education institutions in order to ensure a high quality of education, improving access for disadvantaged groups and increasing the openness of higher education institutions.	• No need for other data /further data We propose to replace them by data collected for PA2 IP1 SC1, SC4

Deloitte proposed a new set of data suitable for intervention evaluation. A model for cooperation between MEYS, CSI and CERMAT was designed in order to facilitate a working exchange of information used by MEYS in context evaluation of interventions OP RDE. These are the suggested indicators PA3:

PA 3: Priority Axis 3: Equal access to high quality pre-school, primary and secondary education

PA3 IP1 SO1 Improving the quality of pre-school education, including facilitating the transition of children to primary school	• Number of children with postponed start of school education • Proportion of children in nursery schools older than 6 • Proportion of children in nursery schools younger than 3 • Number and Proportion of nursery schools given the rank of "excellent" in the CIS evaluation of the quality school model • Number and Proportion of nursery schools given the rank of "expected" in the CIS evaluation of the quality school model • Number and Proportion of nursery schools given the rank of "needing improvement" in the CIS evaluation of the quality school model • Number and Proportion of nursery schools given the rank of "unsatisfactory" in the CIS evaluation of the quality school model • Number of applications for postponing start of obligatory school education. • Number of pupils who had to repeat the first grade • Number of pupils with SEN who had to repeat the first grade • Proportion of college-educated teachers employed in NS • Number of fresh university graduates majoring in pedagogy with the pre-school education specialization employed in NS • Average rating of the current state of development in early literacy reading in NS • Average rating of the current state of development in early literacy mathematics in NS • Average rating of the current state of development in children's creativity in NS

	• Average rating of the current state of development in technology-related education in NS • Average rating of the current state of development in social and civic skills in NS • Average rating of the current state of development in digital equipment competencies of the teaching staff in NS
PO3 IP1 SO2 Improving the quality of education and achievement of students in key competencies	• Average grade in the Czech language classes in HS entrance exams • Proportion of students that have achieved a below average grade in the Czech language classes – CSI general testing of student at in the 5th and 9th grade • Proportion of students that have achieved an above average grade in the Czech language classes – CSI general testing of student at in the 5th and 9th grade • Proportion of students that have achieved a below average grade in literacy - reading classes – CSI general literacy testing • Proportion of students that have achieved an above average grade in literacy - reading classes – CSI general literacy testing • Results of PIRLS international research in the Czech Republic. Average result – literacy – reading • Results of PISA international research in the Czech Republic. Proportion of students with highest grades – literacy – reading • Proportion of students who failed the state-organized school-leaving exam in the Czech language and literature • Proportion of students that have achieved a below average grade in foreign language classes – CSI general testing of student at in the 5th and 9th grade • Proportion of students that have achieved an above average grade in foreign language classes – CSI general testing of student at in the 5th and 9th grade • Proportion of students that have achieved a below average grade in language literacy – CSI general literacy testing • Proportion of students that have achieved an above average grade in language literacy – CSI general literacy testing • Proportion of unsuccessful students in schools with either the state-organized school-leaving exam or apprenticeship certificate – foreign language • Average mathematics exam grade in HS entry exams • Proportion of students that have achieved a below average grade in mathematics classes – CSI general testing of student at in the 5th and 9th grade • Proportion of students that have achieved an above average grade in mathematics classes – CSI general testing of student at in the 5th and 9th grade • Proportion of students that have achieved a below average grade in mathematics – CSI general literacy testing • Proportion of students that have achieved an above average grade in mathematics – CSI general literacy testing • Results of TIMSS international research in the Czech Republic. Average result – literacy testing in mathematics • Results of TIMSS international research in the Czech Republic. Proportion of students with highest grades. – literacy testing in mathematics • Proportion of unsuccessful students in schools with either the state-organized school-leaving exam or apprenticeship certificate – mathematics • Proportion of students that have achieved a below average grade in chemistry, physics and biology classes – CSI general testing of student at in the 5th and 9th grade • Proportion of students that have achieved an above average grade in chemistry, physics and biology classes – CSI general testing of student at in the 5th and 9th grade

	• Results of TIMSS international research in the Czech Republic. Average result – literacy testing in biology • Proportion of students that have achieved a below average grade in biology – CSI general literacy testing • Proportion of students that have achieved an above average grade in biology – CSI general literacy testing • Proportion of students that have achieved the highest grade in biology – CSI general literacy testing • Proportion of students that have achieved a below average grade in information literacy – CSI general literacy testing • Proportion of students that have achieved an above average grade in information literacy – CSI general literacy testing • Proportion of students that have achieved a below average grade in preparation for civic duties classes – CSI general testing of student at in the 5th and 9th grade • Proportion of students that have achieved an above average grade in preparation for civic duties classes – CSI general testing of student at in the 5th and 9th grade • Proportion of students that have achieved a below average grade in social skills classes – CSI general literacy testing • Proportion of students that have achieved an above average grade in social skills classes – CSI general literacy testing • Number and proportion of schools ranked as "Excellent" – CSI education quality testing • Number and proportion of schools ranked as "Expected" – CSI education quality testing • Number and proportion of schools ranked as "Requires improvement" – CSI education quality testing • Number and proportion of schools ranked as "Unsatisfactory" – CSI education quality testing • Number of students that failed and repeated a year • Number of students studying one or more classes with instruction in foreign language at ES and HS • Number of schools / study programs with instruction available in a foreign language • Average rank of the current state of literacy at the ES level – reading • Average rank of the current state of literacy at the ES level – mathematics • Average rank of the current state of development of creativity of children at the ES level • Average rank of the current state of the development of technology related education at the ES level • Average rank of the current state of social and civic skills as well as other key skills at the ES level • Average rank of the current state of the usage of digital equipment competencies of the teaching staff at the ES level • Average rank of the current state of development of language classes at the ES level • Average rank of the current state of support for the competency in creativity and initiative • Average rank of the current state of the support of technology related education • Data from the future project Supporting Teaching Practice (math, readers, informational literacy and key competencies) – improving literacy
PO3 IP1 SO3 Developing a system of strategic management and quality assessment in education	• Number and Proportion of nursery and elementary schools given the rank of "excellent" in the CIS evaluation of the quality school model • Number and Proportion of nursery and elementary schools given the rank of "expected" in the CIS evaluation of the quality school model

	• Number and Proportion of nursery and elementary schools given the rank of "needing improvement" in the CIS evaluation of the quality school model • Number and Proportion of nursery and elementary schools given the rank of "unsatisfactory" in the CIS evaluation of the quality school model • Number of successful and unsuccessful headmasters in the final examination of the e-learning course aimed at strategic management and planning at schools • Proportion of schools that are satisfied with the methodological support of strategic management and planning through IPs SRP, IPs S-RAP, projects LAP and projects RAP • Number of school headmasters who use the acquired knowledge of strategic management and planning
PO3 IP1 SO4 Improving the quality of teachers` training	• Proportion of university graduates majoring in pedagogy in the number of all new teachers at nursery and elementary schools • Proportion of university graduates majoring in pedagogy in the number of all new teachers at high and vocational schools • Unemployment rate of university graduates majoring in pedagogy • Data from Labour Force Survey – Czech Statistical Office, Pospolu, Infoabsolvent
PO3 IP1 SO5 Improving the quality of education and vocational training, including strengthening their labour market relevance	• The unemployment rate of elementary school graduates ages 20 and above • The unemployment rate of high school graduates without completing school-leaving exams • The unemployment rate of high school graduates with completing school-leaving exams • The unemployment rate of vocational school graduates • Number of schools with the best possible rating - CSI education quality testing. • Number of students who switched schools / study program in first two years of HS. • Companies representatives' satisfaction rate with SSO graduates' skills in their respective fields. • Average rating of current support of specialized education including cooperation between schools and employers. • Average rating of development in schools as a center for lifelong education. • Average rating of development in career counseling. • Proportion of schools with partners and employers cooperation strategy (including internships). • Proportion of schools having 2 or more contracts with other employers for more than two years. • Proportion of schools guaranteeing employer's presence during exams. • Developments in category Cooperation of schools and employers. • Data from Pospolu, Infoabsolvent, VIP II Career
PO3 IP2 SO1 Quality conditions for inclusive education	• Number and proportion of NS rated as "Excellent" - CSI education quality rating • Number and proportion of NS rated as "Expected" - CSI education quality rating • Number and proportion of NS rated as "Requires Improvement" - CSI education quality rating • Number and proportion of NS rated as "Unsatisfactory" - CSI education quality rating • Proportion of NS and ES with increased quality of education • Average rating of education in NS and ES • Proportion of HS with increased quality of education (not including schools for students with special needs) • Average rating of education in HS (not including schools for students with special needs)

	• Proportion of physically handicapped students in special classes to a total number of children in NS. • Proportion of physically handicapped students in regular classes to a total number of children in NS. • Proportion of physically handicapped students in special classes to a total number of children in ES. • Proportion of physically handicapped students in regular classes to a total number of children in ES. • Proportion of students with SEN. • Number of teaching assistants in schools. • Number of psychologists in schools. • Number of special education teachers in schools. • Number of schools with complete or partial School Counseling Centers. • Number of schools rating the cooperation with School Counseling Centers with the highest grade. • Data from APIV
PO3 IP3 SO1 Social integration of children and pupils including the integration of Roma children into education	• Number and proportion of NS rated as "Excellent" - CSI education quality rating • Number and proportion of NS rated as "Expected" - CSI education quality rating • Number and proportion of NS rated as "Requires Improvement" - CSI education quality rating • Number and proportion of NS rated as "Unsatisfactory" - CSI education quality rating • Commissioned / Realized evaluations by ASI in project "Inkluzivní a kvalitní vzdělávání v územích se sociálně vyloučenými lokalitami" • Number of teaching assistants in schools.

4.1.3 EQ 1.3: What changes are there to be identified in the qualitative description of the environment in which the planned interventions OP RDE are to be realized?

4.1.3.1 PA1: Increasing capacity for high quality research

The enquiry (interviews, focus groups, questionnaire surveys, secondary data and information analysis) has shown qualitative changes in the environment. Those changes were given priority according to the importance of their impact on R&D activities as follows:

1. Continuing government support of R&D;
2. The National Research, Development and Innovation policy approval for 2016 – 2020;
3. Creation of the National Research and Innovation Strategy for smart specialization in CR;
4. Amendment to the Public Procurement Act (No. 137/2006 Sb.);
5. Creation of National Program for Sustainability I. and II.

According to the enquiry, the qualitative changes do not lower the relevance of the thematic aim of the interventions OP RDE in PA1: Increasing capacity for high quality research.

4.1.3.2 PA2: Development of higher education and human resources for research and development

The survey (interviews, focus groups, questionnaire surveys, secondary data and information analysis) has shown two important qualitative changes in tertiary education environment:

- Changes in the tertiary education law (especially new accreditation institution, introduction of new study programs);
- Change in funding of universities and colleges (expected changes in funding, instability in financing with a negative impact on regional tertiary education and lower numbers of students receiving financial help).

Concerning the impact of realization of the interventions OP RDE (the thematic aim), we find the new Public Procurement Act crucial. At the time of the enquiry, operational principles of the new accreditation institution, which the new law introduces to OP RDE projects that should result in creation of new study programs and acquiring accreditation, were not clarified. This creates uncertainty about whether colleges and universities will be able to meet the objectives of their projects. This might discourage these institutions from applying for OP RDE projects that would aim at creating new study programs.

4.1.3.3 PA3: Equal access to high quality pre-school, primary and secondary education

The enquiry (interviews, focus groups, questionnaire surveys, secondary data and information analysis) has shown qualitative changes in the environment. Those changes were given priority according to the importance of their impact on the everyday operation of schools as follows:

1. The Reform of regional schools` funding;
2. Amendment to the Schools Act on educating pupils with special needs and inclusion of disadvantaged pupils (§ 16);
3. Amendment to the Teaching Staff Act on professional qualification requirements (The possibility of hiring a teacher/artist working part-time);
4. Introduction of a career system for teachers (The law, which introduces career system for teachers, proposed by MEYS was passed in November 2016);
5. Amendment to the Teaching Staff Act stating that the minimal length of contract be 12 months;
6. Amendment to the Schools Act introducing a compulsory pre-school preparation year for children;
7. Amendment to the Schools Act introducing centrally issued general system of entrance exam tests at high schools finished by a school-leaving exam;
8. Amendment to the Schools Act on support of talented pupils (§ 17);
9. Integration of pupils and students - foreigners;
10. Amendment to the Schools Act – compulsory school-leaving exam - mathematics.

This list comprises input of nursery schools, ES, HS, school founding authorities and institutions providing after-school activities. Inclusion of handicapped and disadvantaged children presents the biggest challenge for school according to school representatives. This should mainly affect elementary schools. Nursery schools see the changes as important but a major increase in numbers of children with special needs is not expected.

4.1.4 EQ 1.4: What factors in the change of values/qualitative changes in the environment can be identified?

4.1.4.1 PA1: Increasing capacity for high quality research

The questionnaire survey shows these major factors in changing of R&D environment with the impact on research and innovation in CR:

- National Strategy planning;
- European Strategy planning;
- European Committee requirements;
- Interest groups' activities.

4.1.4.2 PA2: Development of higher education and human resources for research and development

The questionnaire survey shows these major factors in changing of university environment with the impact on tertiary education in CR:

1. Changes in school legislature;
2. National Strategy planning;
3. Interest groups' activities;
4. European Strategy planning.

Changes in school legislature, which set up a new accreditation institution which increases uncertainty in the university environment. At the time of the enquiry, operational principles of the new accreditation institution, which the new law introduces to OP RDE projects that should result in creation of new study programs and acquiring accreditation, were not clarified. This creates uncertainty about whether colleges and universities will be able to meet the objectives of their projects. This might discourage these institutions from applying for OP RDE projects that would aim at creating new study programs.

Schools should be able to guarantee that applications for accreditation will be submitted to a specific date but they cannot guarantee that they will be given accreditation to a specific date, especially due to lack of operation protocols and application standards, and due to inexperience with the operation of the new National Accreditation Commission.

Generally, tertiary education is stable and not prone to extreme changes caused by qualitative changes in the environment.

4.1.4.3 PO3: Equal access to high quality pre-school, primary and secondary education

The questionnaire survey shows these major factors in changing of primary and secondary education with the impact on primary and secondary education in CR:

1. Changes in school legislature;
2. Political Decisions on the national level;
3. National Strategy planning;
4. European Committee requirements;
5. Regional Strategy planning;
6. Activities of interest groups.

Changes in school legislature are especially important now when many new laws concerning school organization and teaching staff are being introduced.

4.1.5 EQ 1.5: In what way is it possible to distinguish the support provided by the OP RDE and the previous support in the 2007 – 2013 time period?

The impact of OP RDE can be in most cases distinguished from the impact of the previous operational Programmes OP EC and OP RDI. Project executives should be able to distinguish what effects OP EC and OP RDI had and what the results of OP RDE are. The actual difference in the operational programmes will be possible to asses in a more advanced stage of the OP RDE program period when the effects can be evaluated (e.g. at the regional or national level). The features of the prior program period, described in this document, should be revised in accordance with the new data, and further development direction in respective fields of education and R&D should be evaluated.

4.2 Field II: Verification of the Change in OP RDE needs, SO relevance

4.2.1 EQ 2.1: Have there been changes in development needs that were identified in the program in CR? What these changes and how important were they?

4.2.1.1 PA1: Increasing capacity for high quality research

The key problems and needs concerning PA1, that were identified in the program document OP RDE, were deemed relevant to the current situation in the analysis.

The program document states that significant decline in the numbers of university students majoring in science and technology subjects, compared to students of other disciplines, has occurred. The study proved no such thing. Therefore, it cannot be stated that the problem identified in the program document persists.

Other needs with lower priority:

- Support development of newly built centers and improving research infrastructure in the open access regime.
- The intervention needs in the smart specialization processes area at the national level.

The R&D in CR shows a positive trend towards improving the environment. However, planning to aim OP RDE at majority of problems concerning RDI is, according to the Theory of Change, seen as relevant.

The government approval of the National Policy of Research, Development and Innovations 2016-2020 and National RIS Strategy establishes priorities in accordance with the current allocation of PA1 support, meaning, they verify the aim of OP RDE.

4.2.1.2 PA2: Development of higher education and human resources for research and development

The key problems and needs concerning PA2, that were identified in the program document OP RDE, were deemed relevant to the current situation in the analysis.

The only exception is the need of investment in remodeling spaces and improving equipment for support of disadvantaged students, and the need of investment in improving quality of life-long education at universities. The support in this area is seen by universities as relatively lower in comparison to other areas at which interventions OP RDE PA2 are aimed.

The systematic improvement of education standard at universities and its relevance to the labour market has been identified as the most important and continuous need. According to universities representatives, universities should be funded systematically by the government.

4.2.1.3 PA3: Equal access to high quality pre-school, primary and secondary education

The key problems and needs concerning PA3, that were identified in the program document OP RDE, were deemed relevant to the current situation in the analysis.

There has been some improvement in two issues previously identified. However, the general needs of the school environment of primary and secondary education remain the same. Research participants also voiced other pressing needs which are not addressed explicitly by the operational programmes. These needs concern the support of talented students, support of special education schools, support of sports activities as means of boosting inclusion, support of prospect teachers in the area of inclusion and finally support of speech therapists at elementary schools.

4.2.2 EQ 2.2: Are the changes in needs so important that their revision in the program, including the follow-up measures (investment priority, SO), is necessary?

4.2.2.1 PA1: Increasing capacity for high quality research

From the thematic point of view, no needs requiring a direct change in text of the OP RDE were identified.

The comprehensive and general nature of the OP RDE text is considered as rather incomprehensible. Potential readers and executives would prefer a better communication in examples of projects whose realization is deemed worth the OP RDE support.

OP RDE indirectly prioritizes technology-related study programs, compared to humanities and social sciences. Projects in the humanities and social sciences generally do not require as much funding as projects in the field of technology. There is a risk that due to the setting of the minimum value of eligible project costs, the needs of humanities and social science programs at universities remain unfulfilled (projects in the fields of humanities and social sciences may not require such a large investment as to reach the minimal eligible costs).

4.2.2.2 PA2: Development of higher education and human resources for research and development

From the thematic point of view, no needs requiring a direct change in text of the OP RDE were identified.

The Focus of specific objectives in the text of OP RDE is seen as generic, the actual focus of interventions OP VVV are clear from the specific focus of the respective calls. Calls in OP RDE should be concentrated on specific themes and activities, which are to respond to the specific needs of universities.

Also, the fact that PA2 OP RDE applies for the project of universities as a whole in the ESF call is seen as problematic. The setting of maximum value of eligible costs may disadvantage large universities.

University projects may be designed to focus on mainstream or general problems and smaller portion of space is left for problems of respective faculties.

4.2.2.3 PO3: Equal access to high quality pre-school, primary and secondary education

From the thematic point of view, no needs requiring a direct change in text of the OP RDE were identified.

The focus of specific objectives in OP RDE is seen as too general and therefore it is possible to add the newly identified needs to OP RDE and address them.

Talented pupils belong to a heterogeneous group at which interventions OP RDE is aimed. It should be clearly stated that applicants can apply for the support of projects aimed at support of talented pupils.

The research has shown that special education schools do not think they can acquire financial help from the OP RDE. No OP RDE document excludes those schools from participating in the program. Therefore, applicants from special education schools should be made aware of the possibility of acquiring support and funding from the project.

Due to the decline in physical fitness of youth, sports activities remain a significant need of the environment. It also supports inclusion. Sports activities may and should be included in the text of OP RDE and the possibility of acquiring support from the project should be communicated to schools.

Teacher`s training is also seen as important for inclusion This need may also be addressed in the context of OP RDE.

OP RDE focuses on prevention of speech and communication difficulties, rather than on solving problems already existing in pupils of elementary schools. However, it would be possible, with adequate wording of the relevant articles, include this need in the support of professional development of teaching staff aimed at developing competence in the field of individualization, inclusive education and differentiated teaching.

4.2.3 EQ 2.3: What are the recommendations for improvement of needs? Is it necessary to modify the Theory of Change and other documentation, including evaluation plan OP RDE, due to the changes in needs?

4.2.3.1 PA1: Increasing capacity for high quality research

In the PA 1 no needs requiring a direct change in text of the OP RDE were identified. Therefore, changes in the Theory of Change are not necessary.

We propose a partial alteration of PA1 evaluation plan, especially the date of submission of the first report:

- 9. Evaluation of the improvement in quality of international research and its results (SO1, PA1 – TC1; including SO5, PA2 – TC10) – suggesting evaluation be postponed to 2020;
- 11. Evaluation of improvement in quality of infrastructure for research and education purposes (SO3, PA1 – TC1) including SO5, PA2 – TC10) – suggesting evaluation be postponed to 2020;

- 12. Evaluation of improvement in quality of strategic management of research at the national level (SA4, PA1 – TC1 including SO5, PA2 – TC10) – suggesting evaluation be postponed to 2021.

The reason for changes in dates of submission is that at the time of evaluation a decision about OP RDE financial support of the projects was not made. Therefore there is a risk of lack of finished projects on which the qualitative evaluation could be based, to the original date of submission.

4.2.3.2 PA2: Development of higher education and human resources for research and development

In the PA2 no needs requiring a direct change in text of the OP RDE were identified. Therefore, changes in the Theory of Change are not necessary.

We propose a partial alteration of PA2 evaluation plan, especially the date of submission of the first report:

- 12. Evaluation of the improvement in quality of strategic management of research at the national level (SA4, PA1 – TC1 including SO5, PA2 – TC10) - suggesting evaluation be postponed to 2021;
- 13. Evaluation of development of universities (SO1-SO4, IP1, PO2 - TC10 a SO1, IP2, PA2 – TC 10) - suggesting evaluation be postponed to 2020;
- 14. Evaluation of the improvement in quality of the conditions for education connected with research and development of human sources in R&D (SO5, IP1, PA2 – TC10 including SO1-4, PA1 – TC1) – suggesting evaluation be postponed to 2020.

The reason for changes in dates of submission is that at the time of evaluation a decision about OP RDE financial support of the projects was not made. Therefore there is a risk of lack of finished projects on which the qualitative evaluation could be based, to the original date of submission.

4.2.3.3 PA3: Equal access to high quality pre-school, primary and secondary education

In the PA 3 no needs requiring a direct change in text of the OP RDE were identified.

The enquiry identified needs that were neither explicitly addressed in the text of OP RDE nor in its calls. Addition of all these needs to the document is possible, they may all be implicitly added to the respective specific objectives and texts of calls. Changes in the Theory of Change are not necessary.

We propose a partial alteration in PA3 evaluation plan, especially the date of submission of the first report:

- 15. Evaluation of the improvement in quality of pre-school education and transition of pupils to elementary schools (SO1, IP1, PA3 – TC10) - suggesting evaluation be postponed to 2019;
- 16. Evaluation of the improvement in quality of education and pupils` results in key competencies (SO2, IP1, PA3 – TC10) - suggesting evaluation be postponed to 2019;
- 19. Evaluation of the improvement in quality of education in relation to labour market (SO5, IP1, PA3 – TC 10) - suggesting evaluation be postponed to 2019.

All the other planned PA3 evaluations should be finished according to the interventions PA3 harmonogram.

4.2.4 EQ 2.4: Are the specific objectives defined in OP RDE relevant for achieving the program`s main objective?

4.2.4.1 PA1: Increasing capacity for high quality research

The enquiry (questionnaire survey, interviews and focus groups) confirmed the relevance of all specific objectives PA1:

- **PA1 IP1 SO1: Improving international quality of research and its results –** Up to 90 % of respondents confirmed relevance in the questionnaire. Further research showed that western institutions leave scientist relatively "free" in choosing the focus of their research and colleagues. OP RDE interventions must provide foreign scientists with the same working conditions and adequate salary. It may be expected that scientists from countries of Western Europe will be preferred.
- **PA1 IP1 SO2: Building capacity and strengthening long-term co-operation of research organizations with the application sphere -** Up to 90 % of respondents confirmed relevance in the questionnaire. Further research showed that the support of human resources, scientists and assisting personnel, is crucial. Managers can seek employment in private sector and it might be difficult to keep high achieving managers in public sector as it is not financed as well at the private sector.
  The support should aim at development of current R&D teams. Quality can be assessed from a qualified evaluation of the state of the current research.
- **PA1 IP1 SO3: Improving the infrastructure for research in education -** Up to 89 % of respondents confirmed relevance in the questionnaire. Further research showed that especially schools focused on subjects other than technology are satisfied with the level of infrastructure and further "hard investment" is not needed. "Soft investment" is preferred in these fields, especially in the area of human resources. At the same time, interventions should prevent further inbreeding, mainly at the university level.
- **PA1 IP1 SO4: Improving strategic management of research at national level –** Up to 76 % of respondents confirmed relevance in the questionnaire. Further research showed that the system creation at the national level must not have an immediate effect on research organization including universities. The changes must be gradual. Experience from Individual Project National Methodology used at Charles University or experience from similar projects in Great Britain might prove useful.

4.2.4.2 PA2: Development of higher education and human resources for research and development

The enquiry confirmed the relevance of the following specific objectives:

- **PA2 IP1 SO1: Improving the quality of education at universities and its relevance for the needs of the labour market.** Up to 96 % of respondents confirmed relevance in the questionnaire. Further research showed that the realization of projects might be complicated by the uncertainty around and intelligibility of the Amendment of the Schools Act creates obstacles for projects applicants. Clear conditions such as a clear definition of success of a project need to be drafted.
- **PA2 IP1 SO4: Setting up and developing an evaluation system and ensuring the quality and strategic management of higher education institutions.** Up to 77 % of respondents confirmed relevance in the questionnaire. Further research showed that with regard to the Amendment

of the Universities Act which requires universities to implement evaluation system and management of quality, support in this area is needed.

- **PA2 IP1 SO5: Improving the conditions for education related to research and for the development of human re-sources in research and development.** Up to 94 % of respondents confirmed relevance in the questionnaire. Further research showed that the need of improvement of research conditions is still relevant and continuous. Therefore it should be addressed by systematic support from the government rather than by a number of short-term projects.
- **PA2 IP2 SO1: Improving the education infrastructure at higher education institutions in order to ensure a high quality of education, improving access for disadvantaged groups and increasing the openness of higher education institutions.** Up to 87 % of respondents confirmed relevance in the questionnaire. Further research showed that the need of improving quality of infrastructure for education is seen as relevant but must be supplemented by support aimed at human resources. This will enable schools to effectively keep quality teaching staff that will use the infrastructure.

As relevant, but not prioritized objectives from the point of view of universities, the following objectives were named:

- **PA2 IP1 SO2: Increasing the participation of students with special needs, from socio-economically disadvantaged groups and from ethnic minorities in higher education, and decreasing the dropout rates of students.** Up to 51 % of respondents confirmed relevance in the questionnaire. Further research showed that there is belief that lowering of the drop-out rate might decrease the quality of university education. The support of inclusion must not threaten the education standards at universities. Humanities and Social Sciences are forced to accept applicants with lesser chance of completing the study programs due to the reduction of numbers of university students. Schools that are financed according to numbers of their students feel the need to make the entrance exams simpler which then leads to increase in duties required from the teachers. This is not reflected in the system of university evaluation in any way. This might lead to decline in quality at universities.
- **PA2 IP1 SO3: Improving the conditions for lifelong learning at higher education institutions** Up to 57 % of respondents confirmed relevance in the questionnaire. Further research showed that life-long education at universities should be seen as secondary, the primary function of universities remains with the main education programs. It is main objective should be improving teachers` training of those who will work in the area of life-long education.

4.2.4.3 PA3: Equal access to high quality pre-school, primary and secondary education

The enquiry confirmed the relevance of the following specific objectives:

- **PA3 IP1 SO1: Improving the quality of preschool education, including facilitating the transition of children to primary school.** Up to 62 % of respondents in schools, 80 % of respondents in school founding authorities and 38 % of respondents from the institutions providing after-school activities confirmed relevance in the questionnaire. Further research showed that nursery school education is the basis for all education and is especially important in the areas of social inclusion of disadvantaged children because it is in nursery schools where the attitude to education is formed. Further training of teachers and aiming of this training at spending more time in classrooms with children is seen as the most important.
- **PA3 IP1 SO2: Improving the quality of education and achievement of students in key competencies.** Up to 89 % of respondents in schools, 86 % of respondents in school founding

authorities and 69 % of respondents from the institutions providing after-school activities confirmed relevance in the questionnaire. Further research showed that support in this area is a priority. Schools focus education programs on development of their pupils` skills and this effort needs to be supported by further investment in this area. Especially teaching methods other than frontal (work groups, small teams, pair work and mentoring) are rated positively.

- **PA3 IP1 SO3: Developing a system of strategic management and quality assessment in education.** Up to 68 % of respondents in schools, 61 % of respondents in school founding authorities and 62 % of respondents from the institutions providing after-school activities confirmed relevance in the questionnaire. Further research showed that this objective is seen as a rather timely. Respondents mostly point out the need for standardized and unified central system of evaluation. Now schools only have their own systems of evaluation.
- **PA3 IP1 SO4: Improving the quality of teachers` training.** Up to 70 % of respondents in schools, 84 % of respondents in school founding authorities and 85 % of respondents from the institutions providing after-school activities confirmed relevance in the questionnaire. Further research showed that students in teachers` training do not spend enough time in classrooms with pupils. Students are well prepared in theory but they lack actual experience from the classroom. This can be improved by mentoring of young teachers by their more experienced colleagues whose motivation needs to be sustained. Interventions should also aim at improving the public image and prestige of being a teacher.
- **PA3 IP1 SO5: Improving the quality of education and vocational training, including strengthening their labour market relevance.** Up to 74 % of respondents in schools, 80 % of respondents in school founding authorities and 92 % of respondents from the institutions providing after-school activities confirmed relevance in the questionnaire. Further research showed that the connection between schools and their partners is seen as important. Education should reflect the labour market demand, especially in the area of vocational training. Due to high costs, any financial support is welcome.
- **PA3 IP2 SO1: Quality conditions for inclusive education**. Up to 76 % of respondents in schools, 65 % of respondents in school founding authorities and 23 % of respondents from the institutions providing after-school activities confirmed relevance in the questionnaire. Further research showed that due to the Amendment of the Schools Act, this objective is seen as relevant and necessary. Especially improvement in support of services that schools are legally obliged to provide and further training of teachers for to prepare them for new challenges that pupils with special needs might present them with. Also highly talented children should be classified as children with special needs as respondents pointed out.

As relevant, but not prioritized objectives from the point of view of universities, the following objective was named:

- **PA3 IP3 SO1: Social integration of children and pupils including the integration of Roma children into education**. Up to 51 % of respondents in schools, 44 % of respondents in school founding authorities and 16 % of respondents from the institutions providing after-school activities confirmed relevance in the questionnaire. Further research showed that problems in socially excluded areas prevail. However, this specific objective is seen as relevant but crucially important. Respondents in interviews and focus groups agree on the need of coordinated social support and support in pedagogy. Interventions should be aimed at individual pupils rather than teachers.

4.2.5 EQ 2.5: Are specific objectives clearly stated? Do they ever overlap?

A comparison analysis has not shown any thematic overlap among the specific objectives. Although in the description of the SO some identical supported activities were identified**,** a following though analysis found no proof for overlapping projects at the level of calls. All future calls should be prepared in regard to the text and structure of the program document so that any form of duplicity could be avoided.

4.2.6 EQ 2.6: Are synergic and complementary interconnections defined on the level of specific objectives relevant to the needs of OP RDE (including possible suggestions for their amendment)?

According to the enquiry, has neither the primary and secondary education environment nor tertiary education environment nor R&D environment seen any significant changes that would need to be addressed by thematic change in OP RDE since the beginning of planning interventions OP RDE. We do not see any need to amend the original synergic and complementary interconnections.

Agreement has been reached about the definition of complementary interconnections. Interconnections are satisfied at the level of calls. Their satisfaction is not seen as a compulsory requirement for receiving subsidies. The co-ordination of calls would be possible without the definition of the term "complementarity" and without the requirement of stating complementarity at the level of calls.

Synergies are in OP RDE defined as interconnections between two projects, which are recorded (in the project application) at the project level in MS2014+. The development of satisfying these synergies is, according to the Operation Manual, tracked in MS2014+ data. In addition to that, substantive evaluation of the synergic and complementary interconnections is carried out. The synergic potential (the potential of a project for being further developed) is given score in points at the submission of the 2nd synergic project application. Applicants may not always be able to satisfy the synergic interconnections (applicant cannot guarantee that his or her application will be addressed by a call). Functionality of the mechanism and co-ordination and realization of synergic interconnections may be threatened by this problem. Evaluation of synergic and complementary interconnections will be a subject of a further analysis in the Parallel Implementation Evaluation OP RDE.

Complementary links between projects OP RDE PA1 IP 1 SO1, SO3 and PA2 IP1 SO5 and the following TA CR programmes (these programmes focus on increasing the number of results and supporting applied research in various fields):

- Programme Alfa;
- Programme Beta 2;
- Programme Delta;
- Programme Epsilon;
- Programme Zeta;
- Programme Eta;
- Programme Theta.

We suggest adding these complementarities to text of the updated Appendix H OP RDE.

4.2.7 EQ 2.7: Is the territorial dimension at the SO level relevant to the needs of OP RDE (including possible suggestions for its improvement)?

System LAP/RAP

The current system of creating Local Action Plans and Regional Action Plans is considered relevant to the needs of regional education institutions and it is proposed that it be left unchanged.

The main objectives in the area of LAP/RAP are, according to MEYS, these:

- The establishment of a sustainable communication between authorities responsible for education in regions.
- Finding and supporting local leaders and education experts.
- Creation of partnerships improving education in local nursery schools, and managed co-operation of other services to support the education of children and youth.
- Support of family-oriented policies and support of co-ordination of services aimed at children.
- Opening a discussion in regions.

Some regional schools` representatives understand the LAP/RAP as a tool for acquiring financial aid from OP RDE. Objectives considered by MEYS to be of primary importance are then seen by these representatives as secondary objectives. There is a risk in not satisfying the expectations (receiving financial aid) of these representatives, who might not be interested in co-operation with the LAP/RAP programs in the future and the MEYS objectives will not be met.

The above mentioned analysis showed that the level of implementation of the strategic planning principals is still very low. (The need for intervention implementation in the strategic management and quality in education evaluation - PA3 IP1 SO3 - is still urgent). Therefore using the LAP/RAP mechanism (including School Action Plans and Activities Plans at HS and VS) is in the PA3 relevant.

System ITI and RIS3

Current system of intervention objectives in PA1 via Integrated regional strategy is relevant.

The options for project founding covered in respective ITI operation programmes are in accordance with the schools and R&D institutions requirements that recognize the threat of high diversity of needs of R&D focused institutions in the RIS3 implementation. The diversity in needs should be corrected by the ITI mechanism. The need for quality improvement of R&D strategic planning at the regional and national level was confirmed by the questionnaire survey. The need for strategic management at the national level (PA2) was not identified. The use of ITI in the programme document of OP RDE is planned only for PA1. As a result of the arguments above, the use of ITI (in conjunction with RIS3) in PA1 is considered relevant.

OP RDE indirectly prioritizes technology-related study programs and aims for future possibility of application of the research results (following RIS3). Therefore the risk of not satisfying the needs of R&D institutions focused on general research is greater. This is especially problematic in research programs in humanities and other nontechnology fields. The possibility of more difficult application of their projects´ results may be expected.

4.3 Field III: Evaluation of the Current System of Indicators and Suggestions for its Improvement

4.3.1 EQ 3.1: Are the proposed indicators relevant to the programme's intervention rationale and the current state?

All program indicators PA1, PA2 and PA3 are seen as relevant with regard to the intervention rationale and the current state of environment.

The indicators are in accordance with the operational programme intervention rationale. The Analysis showed the potential for misleading interpretations in the process of evaluation of some indicators. Duplicity in values may occur within the indicator system OP RDE. In the current system this problem is eliminated by the exact calculation of the indicators in the calls´ appendix so that no duplicity in values occurs. A risk of the indicator not being relevant to the intervention rationale has been identified in the following indicator:

Table 5: Risk Indicators – relevance to intervention rationale

PA IP OC	ID and Name	Definition	Evaluation Deloitte
PA3 IP1 SO3	5 43 10 Number of supported partnerships	Partnerships of various institutions (universities and other institutions including research organizations and the public sector) for the purpose of sharing expertise and experience with problem solving in project realization and their funding from ESI funds.	**Indicator is relevant** – The activity of cooperation building is not explicitly stated in the Theory of Change card. The indicator is presented in the call n. 02_15_002. There is not specification of the indicator in the calls appendix. According to MEYS representatives the indicator is to assess numbers of RAP.

Source: Deskresearch Analysis carried out at Deloitte workshop with MEYS representatives

4.3.2 EQ 3.2: If the Theory of Change has been amended, is the setting of indicatory system in accordance with the amended Theory of Change? Should the indicator system be improved? How?

The analysis of the state of environment in needs in the school environment and the R&D environment has not identified any need in improving the original mechanisms of the Theory of Change. **The setting up of indicator system (result indicators) is considered sufficient.**

4.3.3 EQ 3.3: Do the current indicators reflect appropriately the global and specific objectives of OP RDE? + EQ 3.4: What is the indicating ability of current indicators for respective OP RDE objectives?[3]

Indicators reflect specific objectives as they are described in OP RDE sufficiently. The Analysis proved that the majority of programme indicators have been set up in such a manner so that they would aim

[3] Answers to questions EQ3.3 and EQ 3.4 according to commissioning documentation have been merged. The questions are very similar. Being asked separately, answers to these questions would overlap greatly. OP RDE do not have global obhectives defined as clearly as OP EC did. Therefore, indicators are only evaluated in relation to specific objectives satisfying respektive investment priorities OP RDE.

at results whose satisfaction is expected in the respective specific objectives of OP RDE. In most cases indicators cover all activities and measures which were stated in the Theory of Change cards of specific objectives and which were considered suitable for tracking by result indicators. The potential for improvement of the current indicator system was identified in PA2 IP1 SO2. We propose to add an indicator described below to this specific objective. OP RDE indicators need to be approved by the European Commission, therefore, we suggest that this indicator be used for the specific needs of MEYS.

Table 6: Suggestions for improvement of indicators – relevant to intervention rationale

PA IP SO	ID and Name	Definition	Evaluation by Deloitte
PA2 IP1 SO2	Suggestions for improvement: Number of platforms for vocational meetings.	Number of OP RDE supported platforms for vocational meetings of university, primary and secondary education employees regarding support of cooperation between universities, primary and secondary schools and associations representing ES and HS.	**Suggestions:** The system of indicators does not contain indicator reacting to implemented measures (and activity n. 3) from Theory of Change card "Activities supporting cooperation between universities and institutions of primary and secondary education)". We recommend to base the solution on indicator 5 26 02, whose definition, according to NDI, have we modified for the purpose of evaluation in PA2.

Source: Deskresearch Analysis carried out at Deloitte workshop with MEYS representatives

4.3.4 EQ 3.5: Are the suggested indicators comprehensible and do they meet the basic quality requirements for their qualification?

Most program indicators are defined clearly. Indicator verification – whether they are in accordance with the document "Zásady tvorby a používání indikátorů v programovém období 2014 – 2020" - did not find any significant contradictions between the method and the set indicators. The following table contains indicators with modified definitions in NDI to improve the intelligibility.

Table 7: Intelligibility of indicators and quality requirements for their qualification

PO IP SO	ID and Name	Definition	Evaluation by Deloitte
PA1 IP1 SO3	5 27 30 Proportion of doctoral students using university infrastructure.	Proportion of doctoral students using either the research education, newly constructed, reconstructed, expanded or modernized infrastructure from the OP RDE sources in the university. Number of students will be based on the schedule of appropriate classes and a number of signed up students using these classes or electronic logs in the laboratory equipment.	**Indicator is relevant** The difference from indicator 5 45 10 is that the calculation contains only students from schools supported by OP RDE. This should be mentioned in the indicator's definition in NDI.
PO2 IP1 SO5	2 04 03 Number of services provided by foreign workers.	Research workers of foreign nationality who after the OP RDE project approval were employed by a company which receives subventions while having worked outside of CR in the previous period and not having any employment contracts in this sector. This service is provided by an unsupported person and is used by a company for its development. One service equals one worker for one project.	**Indicator is relevant** There's an error in the definition. We suggest following edit: remove section "not having any employment contracts in this sector."

PO IP SO	ID and Name	Definition	Evaluation by Deloitte
	2 04 15 Number of research organizations with newly incoming research workers from foreign countries or the private sector.	The term "Foreign research workers" means workers with foreign nationalities who did not work outside of CR in at least a year and did not have any employment contracts in this sector. Research workers from private sectors are workers, who did work outside of public (government, university or research affiliated) sector for at least a year and at the same time did not work in one. Incoming mobility from the private sector will be monitored only in the public organizations, therefore, incoming international mobility will be monitored in all research organizations.	**Indicator is relevant** There's an error in the definition. We suggest following edit: remove section "did not have any employment contracts in this sector."
	5 43 11 Number of students studying abroad	Number of bachelor's and master's study program students who spent at least one semester abroad.	**Indicator is relevant** We are warning you about the danger that this indicator might be a duplicate to the indicator 5 46 01. Both indicators according to the definition aim at the number of students abroad. Currently the risk of duplicity is not present, because indicator 5 43 11 targets only students of bachelor's and master's degree while indicator 5 46 01 targets only doctoral students. This difference (or similarly relevant one), however, needs to be preserved in the future at least at the level of calls.
PA2 IP2 SO 1	5 27 20 Proportion of bachelor's and master's degree students using infrastructure outside of the infrastructure for university education and research.	Proportion of bachelor's and master's degree students using either the newly constructed, extended or modernized infrastructure outside of the infrastructure linked to the research from the OP RDE sources.	**Indicator is relevant** To prevent the risk of duplicity with the indicator 5 27 10, we suggest to explicitly mention in the definition that the indicator 5 27 20 monitors only values of institutions supported by OP RDE while the indicator 5 27 10 monitors values in institutions across the whole CR.
	5 18 20 Proportion of students with SN	Portion of students with SN at the university in contrast to all university students. Student with SN is: A. visual impairment – A1. Partially-Sighted / sight user A2. Totally Blind / voice/touch dependent, B. hearing impairment – B1. moderate / speech user, B2. - Totally deaf / sign language user, C. Mobility impairment, C1. Lower body impairment, C2. Upper body impairment, D. - learning disability, E. - mental disorder (including artistic spectrum disorder and anxiety disorder) or psychiatric disorder.	**Indicator is relevant** To prevent the risk of duplicity with the indicator 5 18 10, we suggest to explicitly mention in the definition that the indicator 5 18 20 monitors values only in institutions supported by OP RDE while indicator 51810 monitors values in institutions across the whole CR.

The main risk of duplicity in indicators lies in the fact that the NCI indicator definitions are too generic. Indicators are only specified at the level of calls. In various calls one indicator may be specified differently. This risk must be taken into consideration when the indicators in calls are being specified.

The analysis of the current calls has not shown any duplicity or irrelevance of the programme indicators, which would be the cause of inadequate indicator specification.

4.3.5 EQ 3.6: Are the indicators as revealing as other indicators?

The proposed indicators are considered relevant. Among the proposed indicators, no indicators overlap in the area of earned values. The risk of duplicity in earned values of indicators has been identified in the descriptive definition. All issues were clarified at MEYS workshops. Therefore, the issue was addressed in the answer to the previous evaluation question.

4.3.6 EQ 3.7: Is there any possibility of aggregation or disaggregation of the current indicators for effective measuring of development? If true, which ones?

Aggregation / disaggregation of proposed programme indicators are stated in the aggregation maps of ESF and ERDF indicators. **We consider the proposed options of aggregation / disaggregation relevant.** Further possibilities of aggregation / disaggregation that appeared in the analysis are listed in the following table.

Table 8: Suggested options of aggregation / disaggregation of programme indicators

PA IP SC	ID and name	Definition	Deloitte evaluation
PA1 IP1 SC1	2 02 10 Scientific publications (selected types of documents)	Number of scientific publications filed in Thomson Reuters Web of Science database in the respective year, of type: "article", "book", "book chapter", "letter" and "review".	**Indicator is relevant** It's possible to make the indicator parent to the indicator 2 02 15. Indicator 2 02 15, according to its definition, is a child of indicator 2 02 10.
	2 02 11 Scientific publications (selected types of documents created by supported subjects)	Number of scientific publications filed in Thomson Reuters Web of Science or The Scopus database, published after the day of project OP RDE approval, in which at least one of the authors is a researcher from a supported research center.	**Indicator is relevant** Indicator is monitored at the level of project OP RDE. Therefore, indicator can be a parent to the indicators 2 02 16 and 2 02 13.
	2 02 16 Scientific publications (selected types of documents created by supported subjects by foreign authors)	Number of scientific publications filed in Thomson Reuters Web of Science or The Scopus database, published after the day of project OP RDE approval, in which at least one of the authors is a researcher from a supported research center with a foreign nationality.	**Indicator is relevant** Indicator can be a child of indicator 2 02 11.
PA3 IP1 SC5	5 10 10 Number of organizations in which the quality of education has improved	Education organizations (including after-school activities) which increased their quality and inclusivity. Inclusion oriented organization creates different conditions for every child without exception (including children with SEN) and optimally develops their abilities in one social group. The quality will be measured according to the criteria specified in the OP documentation.	**Indicator is relevant.** We recommend making this indicator parent to indicator 5 12 10.

Source: Desk research analysis Deloitte and workshop with MEYS representatives

4.3.7 EQ 3.8: What risk of objectionable activity for the purpose of achieving accountable values can be identified in main indicators?

The following risks of objectionable activity for the purpose of achieving accountable values of indicators made by applicants and receivers of support from OP RDE were identified during the analysis.

The risks are evaluated based on severity and occurrence probability. The resulting value is a multiplication of these criteria values.

Table 9: List of Identified Risks

Name	Description	Occurrence Probability	Impact Severity	Risk Evaluation	Commentary by Deloitte
Low willingness for completing questionnaire cards – especially in PA2	For the purpose of data collection and assessment of indicators, stated in the IS ESF 2014+, People receiving financial aid are obligated to complete the so-called "Participant Cards", where detailed information about participants in the ESF project. Based on previous experience from OP EC, MEYS representatives warn of unwillingness to complete these cards especially in the case of universities. Universities applying for financial aid might tend to set the lowest result indicators (underestimating the potential of the project). Universities might tend to submit project applications with the prospective activities set in such a manner so that participants` activities would not exceed 40 hours and therefore not constitute a valid indicator, hoping that their project would be approved of.	3	2	6	The risk needs to be addressed especially by MEYS supervision – projects requiring basic co-operation with persons not willing to facilitate basic co-operation should not be realized. We also suggest a consistent supervision over completing questionnaires on-the-spot.
Difficult measurability of the qualitative part of indicators` values	The system of indicators contains indicators whole measurement require qualitative analysis of the result, e.g. 5 10 10 - number of institutions where the quality of proinclusive education has been increased, or 5 25 10 workers in education, who actively use new knowledge and skills), and then an analysis of a so-called professional portfolio where a written evaluation of people receiving support (teachers) ant the progress they have made thanks to the OP RDE interventions can be found. Even small progress that has been made means the positive development. MEYS will be verifying the legitimacy of these evaluations, written by the people receiving support themselves, as part of the supervising activities in monitoring reports or as part of supervision inspection on-the-spot. The risk lies in the fact that these qualitative evaluation components are difficult to measure objectively. The earned value of these indicators will depend on honesty with which the control survey will be undertaken as well as on benevolence of MEYS in evaluating the monitoring reports and inspections on-the-spot. The risk is generally relevant to all indicators in PA1, PA2 and PA3 where subjective evaluation is required for qualifying for financial aid.	2	2	4	The risk should be addressed by a consistent supervision of projects on-the-spot and especially the recorded answers to questionnaires (and a comparison of the actual state of given issue), in which qualitative improvement is indicated at the institutional or personal level. The introductory seminars should also address this issue.

5 Recommendations, including the schedule of their real-life application

The survey have identified recommendations listed in the following chapters.

Table 10: Criteria of impact and time

Criterion	Criterion Description	Criterion Value
Time criterion	Evaluation states the optimal length of time of implementation of the proposed measures in order to ensure actual improvement in the area that the recommendation is concerned with.	1) Recommendation for realization in the long-term horizon (more than 2 years). 2) Recommendation for realization in the medium-length horizon (6 months – 2 years). 3) Recommendation for immediate realization (less than 6 months).
Impact criterion	Evaluation states the importance that is ascribed to the impact of evaluated recommendation.	1) Low importance – implementation of recommendation is considered less important regarding the potential for potential for positive change in OP RDE. 2) Medium Importance – implementation of recommendation is considered moderately important regarding the potential for potential for positive change in OP RDE. 3) High Importance – implementation of recommendation is considered highly important regarding the potential for potential for positive change in OP RDE.

Resulting recommended priority value is equal to a multiplication of the two following categories.

5.1 PA3: Equal Access to Quality Pre-School, Elementary and Secondary Education

Table 11: Recommendation PA3

ID	Name and Description	Realization Steps	Impact criterion	Time criterion	Suggested priority
1PA1	**Creation of evaluation for rating the effectiveness of LAP, RAP, SAP, AP.** - A portion of regional education representatives understand creation of LAP/RAP as a tool for gaining more funding from OP RDE. However, primary aims of MEYS are considered secondary by these representatives. There is a risk that if the representatives' expectations will not be fulfilled (meaning creation of LAP/RAP will not increase the effectivity and relevance of OP RDE funding), the interest in LAP/RAP will decay and the primary goals of MEYS will not be accomplished. Topic of regional dimension is stated in the PA1, PA2 and PA3 evaluations according to the plan of evaluation of Q3 2018. It is recommended to perform an evaluation of the system	**1.** Creation of evaluation including the rating of the regional dimension and sustainability of established communication platforms system **2.** Reach a decision based on the evaluation results, whether the LAP/RAP/SAP/AP system should	2	1	2

ID	Name and Description	Realization Steps	Impact criterion	Time criterion	Suggested priority
	functionality of the regional dimension in PA3. The expected result should be whether the LAP/RAP projects have helped with the improvement of strategic school management on the local or regional level and whether the groups, partnerships and other communication platforms, founded to create LAP/RAP, are long-term and effective. In case of poor results, the evaluation should contain a set of steps to help OP RDE management act accordingly at the regional level.	be continued in the current form or it should be modified. **3.** Implementation of possible measures for relevant calls for the rest of the term.			

5.2 General recommendations

Table 12: General recommendations

ID	Name and Description	Realization Steps	Impact criterion	Time criterion	Suggested priority
1PDO	**Specification of activities under relevant calls and their communication to potential applicants** – The PA1, PA2 and PA3 evaluation found that the aim of the SO in the OP RDE document is too general and is described in more detail in calls and their appendices. Potential applicants are not well informed about the various types of projects that can be realized via particular calls. Even more, they can assume that their specific needs are not covered by OP RDE interventions (problem identified especially in PA1 and PA3).Therefore, it is recommended that as many possibilities of various types of projects, that can be realized, be communicated to prospective applicants (for example the possibility of funding sports activities as a tool in improving inclusion or for the purpose of supporting talented pupils…). This communication is seen as compensation for the applicants` lack of information (even though they did not acquire relevant information themselves – such in case of previous sport activities). As a suitable form of this communication, we recommend a more detailed list of the supported activities in appendices of call, including in some cases a list of activities that are not supported by the call. This additional information should be in the form of a "project menus", from which applicants may choose (the final form and focus of a chosen project would, of course, be drawn by the applicant). What is meant by theses "menus" is that all interventions in OP RDE should not be realized in the form of templates. This complex list of supported activities would also make evaluation of these projects by external evaluators easier.	1. Specification of appendices of calls regarding an area of subject definitions of approved / disapproved activities. 2. Recommended manner of communication with applicants concerning calls.	3	3	9

ID	Name and Description	Realization Steps	Impact criterion	Time criterion	Suggested priority
	Another suitable additional activity may also be distribution of a newsletter to representatives of institutions with possible applicants. These newsletters should contain information about new initiatives and plans as well as notifications about new calls (information not considered as confidential). Most importantly they should contain detailed description of activities that may get support from a call. The purpose of these newsletters should be to simplify the information channels through which information about new projects and calls may be easily obtained. The objective of this specification is to prevent inadequately informed applications aimed at poorly chosen projects from the very start. It also aims at motivating new applicants and greater transparency in conditions and clearly communicated vision of the project.				
2PDO	**Adding prospect complementarity and synergy with projects OP RDE to appendix H. OP RDE –** The current text of appendix H. OP RDE does not contain definitions of links with TA CR programmes. The TA CR representative is a member of the OP RDE planning committee. Possible complementarities with OP RDE objectives and TA CR programmes have been identified. We recommend adding these links to the text of the updated appendix H. OP RDE.	Adding the relevant links to the updated appendix H. OP RDE	2	3	6

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  Persons with tertiary education (ISCED) and/or employed in science and technology - http://ec.europa.eu/eurostat/statistics-explained/index.php/R_%26_D_personnel
  Graduates at doctoral level by sex and age groups - per 1000 of population aged 25-34 https://data.europa.eu/euodp/cs/data/dataset/3APqikVTOhfKGm7s0sRA
  Share of women researchers (FTE): all sectors - http://ec.europa.eu/eurostat/data/database?node_code=tsc00002#
- **IS MONIT 7+,** Data of projects realized in OP EC and OP RDI (project finances, supported activities, areas of support, etc.) for the purpose of distinguishing the impact the previous programming period and current programming period

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