

A List of Measurable Indicators of OP Education¹

Context indicators

Context indicator	Definition	Type of indicator (output, outcome, impact, core)	Unit	Initial value		Target value	Source	Methodology of measurement
				year	value	year 2013		
1. Human resources expenditure - (total public expenditure on education) as a GDP share	Human resources expenditure -(total public expenditure on education) as a GDP share	context	%	2003	4,4	5,2	Eurostat	The measurement will be based on Eurostat methodology
2. Total rate of employment	Total rate of employment (share of population aged 15 – 64 employed in the total population in that age category)	context	%	2005	57,7	63,4	Eurostat, Statistical Office SR	The measurement will be based on Eurostat methodology
3. Population % participating in life-long learning in 100 aged 25 – 64	Population % participating in life-long learning exceeding 4 hours at the time of survey in 100 aged 25 – 64 (EU benchmark)	context	%	2005	4,6	12,5	Eurostat (EU Labour Force Survey)	The measurement will be based on Eurostat methodology. Participation in life-long learning is considered involvement in the educational process or training during the four weeks before the survey was performed.
4. Graduates from the tertiary level of higher education	No. of graduates from the tertiary level of higher education (doctorands) in 1000 aged 20 – 29	context	No.	2005	8,3	12	Eurostat	The measurement will be based on Eurostat methodology.

¹ Indicators are reported on annual basis (in the annual report on the programme implementation), based on IB/MA quarterly monitoring reports and interim project monitoring reports.

5. Youth with secondary education	Population percentage aged 20 – 24 which has achieved at least secondary education or completed post-maturita studies (EU benchmark)	context	%	2005	91,8	92	Eurostat (EU Labour Force Survey)	The measurement will be based on Eurostat methodology. The indicator is monitor by a questionnaire in population aged 20 – 24 which has achieved the level of education compliant with the scale. Only those were excluded from the total population who did not indicate an answer in the questionnaire.
6. Population percentage (aged 18 – 24) with lower secondary education, not receiving any further education	Population percentage (aged 18 – 24) with lower secondary education (primary or secondary education without maturita – ISCED 0, 1, 2, 3C), not receiving any further education – early school leavers (EU benchmark)	context	%	2006	6,4	5,5	Eurostat (EU Labour Force Survey)	The measurement will be based on Eurostat methodology. The pupils does not continue education if – during the last four weeks before the survey – he/she did not participate in any type of education. The relevancy of education for the respondent's recent or future job is not taken into account. Those who have not responded to the applicable questions were excluded from the survey.

The tables below contain measurable indicators at the level of priority axes. The target values for priority axes 1, 2 and 3 cover only the regions of the *Convergence* objective and the target values indicated for priority axis 4 apply to the region of the *Regional competitiveness and employment* objective. The values indicated for the Bratislava self-governing region (priority axis 4) are not included in the target values for the regions of the *Convergence* objective.

Measurable indicators at the level of **priority axis 1** *Reform of the education and vocational training system*

Indicator	Definition	Type of indicator (output, outcome, impact, core)	Unit	Initial value		Target value	Source	Methodology of measurement
				year	value	year 2013		
1. No. of newly created educational programmes Of which: Primary schools (PS), secondary schools (SS), higher education institutions (HEI)	No. of newly created educational programmes, branches and programmes of studies in all types of schools supported by OP Education which would lead to higher quality of education by means of their objectives, methods and forms	output	No.	2006	0	120	ITMS	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS. With regard to the need of a systemic solution of a reform of education at all its levels, it is mainly national projects to be implemented under the school reform in the regional school system (approx. 50 for PS and SS) and demand-oriented projects in higher education institutions (approx. 70).
2. Schools successful in the repeated quality evaluation Of which: primary schools, secondary schools	Percentage of schools, beneficiaries of projects under OP Education which were more successful in the repeated quality evaluation of the conditions, outcomes and management than in the first evaluation ²	outcome	%	2006	0	90	State School Inspection	Primary and secondary schools will be evaluated which are beneficiaries of projects under OP Education. In that selected sample, the SSI will perform comprehensive inspections (the quality of conditions, outcomes and management) immediately before the beginning of the project implementation and one to three years after its closing. It is expected that 90 % of that sample will prove higher quality of school work in the mentioned areas, that to the ESF intervention.

3. No. of pedagogical staff who participated in continuing education programmes Of which: women/men Age structure: 24 – 45, 45+	No. of pedagogical personnel who successfully completed courses (with the applicable certificate awarded) of continuing education of pedagogical staff supported by OP Education	output	No.	2006	0	50 000	ITMS	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS and statistical yearbooks of ISIP. The target value of 50 000 stands for approx. 70 % of the total No. of pedagogical staff in 2005. With regard to the need of a systemic solution for continuing education of pedagogical staff, in particular national projects are to be implemented.
4. No. of training courses for pedagogical staff	No. of training courses for pedagogical staff supported by OP Education	output	No.	2006	0	15	ITMS	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS. With regard to the need of a systemic solution for continuing education, in particular national projects are to be implemented.
5. PISA index	Reading, knowledge in science and mathematics of pupils aged 14 and 15	impact	No.	2003	1462	1500	Education Ministry, NEI – OECD – PISA (Programme for International Student Assessment)	The measurement will be performed on the basis of OECD methodology. The survey focuses mainly on testing the students' capability to apply knowledge in solving real problems and analysing texts. The resulting value is the arithmetic average of results of the Slovak pupils in the following areas: mathematics, science and reading. The PISA evaluation survey is repeated at 3-year intervals.
6. Placement rate of secondary school leavers Of which: Continuing their studies, Employed,	The share of those who completed the secondary school educational programmes supported by OP Education and who were placed on the labour market or in the follow-up level of education within 12 months in the total	outcome	%	2006	0	80	ITMS, SVEI	The placement rate will be established from ITMS output reports and from interim monitoring reports of beneficiaries in which the beneficiaries will report on the basis of findings from questionnaire

Unemployed	number of graduates							surveys (or other survey methods) on the placement rate of participants in educational activities on the labour market or in the follow-up level of education. The placement data of SS graduates is also monitored by the SVEL.
7. Share of higher education institutions which increased their management efficiency and quality by means of OP Education	Percentage of higher education institutions which raised their management efficiency and quality by implementing projects supported by OP Education in the total number of higher education institutions	outcome	%	2006	0	50	ITMS, ISIP	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS. The MA intends to support management improvements at least in half of the higher education institutions.
8. Graduates from the tertiary level of higher education	No. of graduates from the tertiary level of higher education (doctorands) in 1000 aged 20 – 29	impact	No.	2005	8,3	12	Eurostat	The measurement will be based on Eurostat methodology.
9. Share of employees in research and development involved in continuing education Of which: Employees of higher education institutions)employees of other research and development institutions women/men Age structure: 24 – 45, 46+	Percentage of research and development employees – successful graduates (who were awarded the respective certificate) from continuing education programmes support by OP Education in the total No. of research and development employees	output	%	2006	0	30	ITMS	The share will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS and statistical data available in the Statistical Office SR and statistical yearbooks of the ISIP. The 30 % share is based on the MA's intention to involve approx. one third of the research and development employees in continuing education.
10. No. of projects for the support of human resources in the centres of excellence in higher education institutions and the Slovak Academy of Sciences	No. of projects supporting the development of human resources in the excellence centres in higher education institutions and the Slovak Academy of Sciences supported by the OP Education where the science and research potential is concentrated and sources for innovative research in the selected field of science or horizontally, in several	output	No.	2006	0	20	ITMS	The number of projects will be established from output reports of the ITMS. The MA intends to support the development of human resources in research and development in at least 3 centres of excellence a year.

	field of science, aiming at new methods and procedures of international impact							
11. Rate of involvement of research and development employees in supra-national research projects Of which: Employees of higher education institutions)employees of other research and development institutions	The share of research and development employees in higher education institutions and other research and development institutions in supra-national projects supported by OP education in the total number of R&D employees in Slovakia	output	%	2006	0	20	ITMS	The share will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS and statistical data available in the Statistical Office SR. The 20 % share is based on the MA's intention to involve approx. one fifth of the research and development employees in continuing education.
12. No. of partnerships and networks of development and innovations supported by OP Education	No. of partnerships within the framework of involving HEI and R&D organisations in international cooperation and development and innovation networks supported by OP Education to the end of networking expert research and innovation workplaces from the academic and industrial sectors, overcoming barriers between research and practice and supporting the transfer of knowledge and highly specialised expertise from research to the economy	output	No.	2006	0	30	ITMS	The number of partnerships and networks will be established from output reports of the ITMS. The assumed No. of 30 is based on the MA's intention to support at least 4 partnerships or research and innovation networks a year.
13. Share of partnerships and research and innovation networks existing after closing the support by OP Education	Percentage of partnerships resulting from the involvement of HEI and R&D organisations in international cooperation and research and innovation networks existing after closing the support by OP Education	outcome	%	2006	0	80	ITMS	The percentage of partnerships and networks will be established from pot-implementation monitoring reports and output reports of the ITMS.
14. Rate of placement of HEI graduates on the labour market	The share of graduates from HEI programmes of studies supported by OP Education who were placed on the labour market within 12 months in the	outcome	%	2006	0	90	ITMS, ISIP	The placement rate will be established from ITMS output reports and from interim monitoring reports of beneficiaries in which the

	total number of participants in those programmes							beneficiaries will report on the basis of findings from questionnaire surveys (or other survey methods) on the placement rate of graduates on the labour market. The placement data of HEI graduates is also monitored by the ISIP.
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Measurable indicators at the level of **priority axis 2** *Life-long learning as the basic principle of a knowledge-based society*

Indicator	Definition	Type of indicator (output, outcome, impact, core)	Unit	Initial value		Target value	Source	Methodology of measurement
				year	value	year 2013		
1. Population % participating in life-long learning pre 100 aged 25 – 64	Population % participating in life-long learning exceeding 4 hours at the time of survey in 100 aged 25 – 64 (EU benchmark)	outcome	%	2005	4,6	12,5	Eurostat (EU Labour Force Survey)	The measurement will be based on Eurostat methodology. Participation in life-long learning is considered involvement in the educational process or training during the four weeks before the survey was performed.
2. No. of lecturers who participated in continuing education programmes Of which: women/men Age structure: 24 – 45, 46+	No. of lecturers who successfully completed courses (with the applicable certificate awarded) of continuing education supported by OP Education; the “lecturer” is involved in educational activities of educational institutions in continuing education. He/She must be professionally competent.	output	No.	2006	0	1000	ITMS	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS and statistics of ISIP. With regard to the lack of data on continuing education, including the No. of lecturers, the information of 100 lecturers is only an expert estimate.
3. No. of supported programmes of continuing education	No. of programmes of continuing education supported by OP Education	output	No.	2006	0	150	ITMS	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS. The number of 150 programmes is based on the MA’s intention to support at least 20 programmes a year.
4. No. of newly established network within learning regions	No. of newly established local and regional networks (of at least 3 partners) of various institutions created within learning regions supported by OP Education.	output	No.	2006	0	20	ITMS	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS. The expected number of 20 is based on the intention to create at least 3 networks in each self-governing

								region.
5. Share of networks created within learning regions after closing of support by OP Education	Percentage of networks created within learning regions after closing of support by OP Education	outcome	%	2006	0	80	ITMS	The percentage of networks will be established from pot-implementation monitoring reports and output reports of the ITMS.
6. Share of medical personnel graduating from continuing education programmes for medical personnel Of which: women/men Age structure: 25 – 54, 54+	Share of medical personnel graduating from continuing education programmes for medical personnel supported by OP Education in the total number of medical personnel in the sector	output	%	2006	0	7	ITMS	Out of the total number of 98 829 employees in the sector as at 31.12.2005, 74,3 % of them had medical education (i.e. 73 472). The intention is that at least 7 % of that medical personnel ($73\,472/100 \times 7 = 735 \times 7 = 5143$) successfully graduates from continuing education during 2008 – 2013 according to regulations of the health sector (which means 860 graduates from study programmes in continuing education of medical personnel a year).
7. No. of educational programmes in continuing education of medical personnel	No. of newly created and innovated continuing education programmes (model programmes) in health care supported by OP Education	output	No.	2006	0	20	ITMS, Ministry of Health SR	With regard to the expected reduction in the number of specialisation branches and certification trainings in the near future and thus, a reduction in the necessary number of model programmes (model programme = minimal standard) as well as the ESF financial allocation for continuing education of medical personnel, 20 programmes of continuing education of medical personnel is proposed by the year 2013 in case that the number also includes innovations of the existing programmes. A model programme must be accepted by the Health

								Ministry. That means that the Health Ministry will have that information available after accreditation. The potential applicant for a model programme should be obliged to indicate – when submitting a programme for approval to the Health Ministry – that the programme has been prepared with the support of ESF funds.
8. Share of medical personnel who remained in the health system after graduation from continuing education programmes Of which: women/men Age structure: 25 – 54, 54+	No. of medical personnel after graduation from continuing education programmes for medical personnel supported by OP Education who, 12 months after graduation from the educational programme, perform specialised working activities, specialised working activities or certified working activities of medical personnel in the Slovak health care system.	outcome	%	2006	0	80	ITMS, Ministry of Health SR	As the objective is stabilising medical personnel in the Slovak health care system, 80 % of the programme graduates should still be within the Slovak health care system 12 months after the graduation.

Measurable indicators at the level of **priority axis 3** *Support to education of persons with special educational needs*

Indicator	Definition	Type of indicator (output, outcome, impact, core)	Unit	Initial value		Target value	Source	Methodology of measurement
				year	value	year 2013		
1. No. of pupils with special educational needs involved in education programmes Of which: Pupils from marginalised Roma communities Pupils from socially disadvantaged environment; Pupils with special upbringing and education needs	No. of pupils from marginalised Roma communities, from socially disadvantaged environment and with special upbringing and education needs who completed education programmes supported by OP Education	output	No.	2006	0	10 000	ITMS	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS. The beneficiary will be obliged to exactly identify the target group in the monitoring report, whereby identification will be ensured of pupils from MRC, pupils coming from SDE and pupils with SUEN. The MA intends to involve approx. 10 % of pupils from those target groups in an education programme. Statistical data regarding the number of persons from the different target groups is available only for pupils from MRC (93 400 pupils aged 6 – 15 in 2005).
2. No. of formal education programmes for persons with special educational needs Of which: Programmes aimed at pupils from marginalised Roma communities, pupils from socially disadvantaged environment and pupils with special upbringing and educational needs	No. of education programmes aimed at pupils from marginalised Roma communities, pupils from socially disadvantaged environment and pupils with special upbringing and educational needs supported by OP Education	output	No.	2006	0	15	ITMS	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS. The beneficiary will be obliged to exactly identify the target group in the monitoring report, for which the programme has been created. With regard to the need of a systemic solution in creating alternative programmes of formal education, in particular national projects are

								expected to be implemented, at least 5 projects for each target group of persons supported by OP Education.
3. No. of persons involved in social inclusion of persons with special educational needs, trained in continuing education programmes Of which: women/men Age structure: 16 – 24, 25 – 45, 46+ By education: PS, SS, HEI	No. of persons involved in the social inclusion of persons coming from MRC, from social disadvantaged environment and pupils with special upbringing and educational needs, trained in continuing education programmes supported by OP Education	output	No.	2007	0	35 000	ITMS	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS. With regard to the need of a systemic solution in the education of persons with special educational needs, a high number of pedagogical staff and other persons is to be trained for working with the given target groups. The target value represents approx. half of the pedagogical staff in Slovak PS/SS, as pedagogues represent the most part of the target value.
4. No. of continuing education programmes for persons involved in social inclusion of persons with special educational needs Of which: women/men Age structure: 16 – 24, 25 – 45, 46+	No. of continuing education programmes supported by OP Education, aimed at persons involved in social inclusion of persons with special educational needs	output	No.	2006	0	35	ITMS	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS. With regard to the need of a systemic solution in the continuing education of persons involved in social inclusion of persons with special educational needs, in particular national or regional projects would be implemented. In each self-governing region, implementation of at least 5 projects is expected.
5. Placement rate of graduates from formal education programmes for persons with special educational needs Of which: women/men	Share of persons who completed formal education programmes for persons with special educational needs supported by OP Education and who were successfully placed on the labour market or in the follow-up level of education	outcome	%	2006	0	40	ITMS	The placement rate will be established from interim monitoring reports of beneficiaries, from ITMS output reports in which the beneficiaries will report on the basis of findings from questionnaire

Persons from marginalised Roma communities, from socially disadvantaged environment and disabled Placed on the labour market Placed in the follow-up level of education Registered by the Labour Office	within 12 months from completion, in the total number of the programme participants							surveys (or other survey methods) on the placement rate of participants in educational activities on the labour market or in the follow-up level of education.
6. Placement rate of graduates from continuing education programmes for persons with special educational needs Of which: women/men Persons from marginalised Roma communities, from socially disadvantaged environment and disabled Age structure: 16 – 24, 25 – 45, 46+ By education: Not completed PS, SS Employed, Unemployed	Share of persons who completed continuing education programmes for persons with special educational needs supported by OP Education and who were successfully placed on the labour market within 12 months from completion, in the total number of the programme participants	outcome	%	2006	0	40	ITMS	The placement rate will be established from interim monitoring reports of beneficiaries, from ITMS output reports in which the beneficiaries will report on the basis of findings from questionnaire surveys (or other survey methods) on the placement rate of participants in educational activities on the labour market.
7. Primary school dropouts from socially disadvantaged environment	Share of primary school dropouts from socially disadvantaged environment in the total number of dropouts	outcome	%	2006	65,4	50	ISIP, Education Ministry	The Education Ministry possesses the necessary statistics from the statistics prepared by the ISIP. The data of dropouts coming from SDE are evaluated every year on the basis of information by the ISIP.

Measurable indicators at the level of **priority 4** *Modern education for a knowledge-based society for the Bratislava region*

Indicator	Definition	Type of indicator (output, outcome, impact, core)	Unit	Initial value		Target value	Source	Methodology of measurement
				year	value	2013		
1. No. of newly created educational programmes Of which: PS, SS, HEI	No. of newly created educational programmes, branches and programmes of studies in all types of schools supported by OP Education which would lead to higher quality of education by means of their objectives, methods and forms	output	No.	2006	0	80	ITMS	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS. With regard to the need of a systemic solution of a reform of education at all its levels, it is mainly national projects to be implemented under the school reform in the regional school system (approx. 50 for PS and SS) and demand-oriented projects in higher education institutions (approx. 30).
2. Schools successful in the repeated quality evaluation Of which: primary schools, secondary schools	Percentage of schools, beneficiaries of projects under OP Education which were more successful in the repeated quality evaluation of the conditions, outcomes and management than in the first evaluation	outcome	%	2006	0	90	State School Inspection	Primary and secondary schools will be evaluated which are beneficiaries of projects under OP Education. In that selected sample, the SSI will perform comprehensive inspections (the quality of conditions, outcomes and management) immediately before the beginning of the project implementation and one to three years after its closing. It is expected that 90 % of that sample will prove higher quality of school work in the mentioned areas, that to the ESF intervention.
3. No. of pedagogical staff who participated in continuing education programmes Of which: women/men Age structure: 24 – 45, 45+	No. of pedagogical personnel who successfully completed courses (with the applicable certificate awarded) of continuing education of pedagogical staff supported by OP Education in the total number of pedagogical personnel in the Bratislava region	output	No.	2006	0	7000	Education Ministry, SSI	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS and statistical yearbooks of ISIP. The target value of 7000 stands for approx. 70 % of the total No. of pedagogical staff in the Bratislava region in 2005. With regard to the need

								of a systemic solution for their continuing education, in particular national projects are to be implemented.
4. No. of training courses for pedagogical staff	No. of training courses for pedagogical staff supported by OP Education	output	No.	2006	0	15	ITMS	The number will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS. With regard to the need of a systemic solution for continuing education, in particular national projects are to be implemented.
5. Graduates from the tertiary level of higher education	No. of graduates from the tertiary level of higher education (doctorands) in 1000 aged 20 – 29	impact	No.	2005	8,3	12	Eurostat	The measurement will be based on Eurostat methodology.
6. Share of employees in research and development involved in continuing education Of which: Employees of higher education institutions)employees of other research and development institutions women/men Age structure: 24 – 45, 46+	Percentage of research and development employees – successful graduates (who were awarded the respective certificate) from continuing education programmes support by OP Education in the total No. of R&D employees	output	%	2006	0	30	ITMS	The share will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS and statistical data available in the Statistical Office SR and statistical yearbooks of the ISIP. The 30 % share is based on the MA's intention to involve approx. one third of the research and development employees in continuing education in the Bratislava region..
7. No. of projects for the support of human resources in the centres of excellence in higher education institutions and the Slovak Academy of Sciences	No. of project supporting the development of human resources in the excellence centres in higher education institutions and the Slovak Academy of Sciences supported by the OP Education where the science and research potential is concentrated and sources for innovative research in the selected field of science or horizontally, in several field of science, aiming at new methods and	output	No.	2006	0	10	ITMS	The number of projects will be established from output reports of the ITMS. The MA intends to support the development of human resources in research and development in 10 centres of excellence due to the fact that the Bratislava region concentrates almost 50 % of research capacities of Slovakia.

	procedures of international impact							
8. Rate of involvement of research and development employees in supra-national research projects Of which: Employees of higher education institutions)employees of other research and development institutions	The share of research and development employees in higher education institutions and other research and development institutions in supra-national projects supported by OP education in the total number of R&D employees in the Bratislava region	output	%	2006	0	20	ITMS	The share will be established from interim monitoring reports of the beneficiaries and from the output reports of the ITMS and statistical data available in the Statistical Office SR. The 20 % share is based on the MA's intention to involve approx. one fifth of the research and development employees in continuing education.
9. No. of partnerships and networks of development and innovations supported by OP Education	No. of partnerships within the framework of involving HEI and R&D organisations in international cooperation and development and innovation networks supported by OP Education to the end of networking expert research and innovation workplaces from the academic and industrial sectors, overcoming barriers between research and practice and supporting the transfer of knowledge and highly specialised expertise from research to the economy	output	No.	2006	0	15	ITMS	The number of partnerships and networks will be established from output reports of the ITMS. The assumed No. of 15 is based on the MA's intention to support at least 2 partnerships or research and innovation networks a year.
10. Share of partnerships and research and innovation networks existing after closing the support by OP Education	Percentage of partnerships resulting from the involvement of HEI and R&D organisations in international cooperation and research and innovation networks existing after closing the support by OP Education	outcome	%	2006	0	80	ITMS	The percentage of partnerships and networks will be established from pot-implementation monitoring reports and output reports of the ITMS.
11. Population % participating in life-long learning pre 100 aged 25 – 64	Population % participating in life-long learning exceeding 4 hours at the time of survey in 100 aged 25 – 64 (EU benchmark)	outcome	%	2005	4,6	12,5	Eurostat (EU Labour Force Survey)	The measurement will be based on Eurostat methodology. Participation in life-long learning is considered involvement in the educational process

								or training during the four weeks before the survey was performed.
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