



**NATIONAL INSTITUTE OF STATISTICS
ROMANIA**

**Quality Report of
Adult Education Survey
AES 2008**

Summary

	Pag.
I. General information	3
II. Content	4
III. Relevance	6
IV. Accuracy	7
V. Sampling errors	10
VI. Non sampling errors	20
VII. Timeliness and punctuality	26
VIII. Accessibility and clarity	27
IX. Comparability/ Deviations from the AES recommendations	27
X. Coherence	28
XI. Overall assessment	28
XII. Problems encountered and lessons to be learned	29

I. General information

1.	Organisation responsible the survey	<p>Statistics Sweden – International Consulting Office, ICON Institute – Public Sector, Irecson Institute and Digital Data Services – carried out all survey phases: design of the methodology, conducted field test and main data collection, data input, data tabulation, data analysis and publication.</p> <p>NIS provided the technical expertise and is the beneficiary of the survey database, methodology, analyses and publications.</p>
2.	Contact person(s) (name, unit, e-mail, phone, fax)	<p>Georgeta Istrate National Institute of Statistics georgeta.istrate@insse.ro Phone:+4021 318 18 11 Fax: +4021 318 18 57</p>

6.	Survey participation
	Voluntary
7.	Survey period
	28 March – 25 April 2008.

II. Content

1.	<p>Parameters of interest</p> <ul style="list-style-type: none"> ➤ Participation rates in formal education ➤ Participation rates in non-formal education ➤ Participation in informal education ➤ Share of job related activities in non-formal education ➤ Share of formal and non-formal education by field ➤ Average number of instruction hours spent on formal/non-formal learning ➤ Average amount spent on registration fees, tuition/books regarding formal/non-formal learning ➤ Reasons for not participating in more learning / reasons for not participating in any learning at all ➤ Computer skills ➤ Language skills ➤ Participation in social activities
2.	<p>Main variables</p> <p>Various background variables:</p> <p>E.g. gender, degree of urbanization, age, educational attainment level, main current labour status, industry/occupation/size and other information about current employment and employment one year ago, parents' educational attainment level.</p> <p>Key variables:</p> <ul style="list-style-type: none"> • Participation in formal learning. • Participation in non-formal learning. • Participation in informal learning. • Level of the formal education activities in the last twelve months. • Field of learning (formal, non-formal and informal learning). • Reasons for taking part in learning (formal and non-formal learning). • Volume of instruction hours (formal and non-formal learning). • Participation in learning during working hours (formal and non-formal learning). • Employer financing and costs of learning (formal and non-formal learning). • Obstacles to participation in education and training. • The willingness to participate (more) in education and training.

3.	<p>Statistical units, scope and target population</p> <p>Target population: Population in private households aged 25-64.</p> <p>Statistical units: Individuals taking part in education and training activities, learning activities (for example the course the interviewee has taking part in)</p> <p>In line with the general outline for the AES provided by the Eurostat Task Force, the target population for the survey in Romania was defined as the adult persons, residents, aged between 25 and 64 years (individuals born in the period 1st of April 1943 – 31st of March 1983, were included in the survey).</p> <p>The survey was carried-out on a household sample, in rural and urban area, selected randomly from all the counties of the country and from Bucharest. In the survey framing area were included all the persons who have the stable address in the selected households. In the records are included all the members of the household in the age range between 25 and 64, including the persons left for less than six months, if they are keeping contacts with their household, such as:</p> <ul style="list-style-type: none"> - persons left to study; - workers left to work; - persons in vacation and trips; - persons hospitalized or under temporary treatment or recovery in sanatoriums. <p>The persons who live permanently in common houses (such as hotels, asylums, sanatoriums, worker's houses) are not included in the research.</p> <p>The observation unit was the household, defined as a group of two or more persons living normally together are generally related, and do the housekeeping together, participate in whole or partially at the income and expenses budget of the household.</p>
-----------	---

4.	<p>Territorial coverage</p> <p>NUTS 2 level.</p>
-----------	---

	<i>Universe</i>	<i>Individuals</i>
5.	<p>Target population</p> <p>The number of <i>individuals</i> in the target population (scope, universe).</p>	11236375
6.	<p>Non-target population</p> <p>The approximate number of <i>individuals</i> outside the scope of the survey (e.g. individuals younger than 25 or older than 64), i.e. the difference between the total population in the country and the target population).</p>	21528627-11236375=10292252

7.	<p>Study domains</p> <p>The parameters were estimated for gender, age groups and residence areas, highest level of education attained, main current labour status, regions and fields of learning.</p>
-----------	---

8.	<p>Reference period (s)</p>
-----------	------------------------------------

<p>The reference period for most questions in the survey was the twelve months prior to the day of the interview.</p> <p>Some variables (e.g. various background variables, language proficiency) refer to the situation at the date of the interview.</p>
--

III. Relevance

1. Classification and description of users

	<i>Classification of user</i>	<i>Description of user</i>
1.1	Institutions: -European level -National or regional level	<p>Eurostat</p> <p>National Council for Adult Vocational Training has an advisory role in the foundation and promotion of policies and strategies for adult vocational training.</p> <p>National Agency for Labour Employment has as main objectives: the institutionalization of social dialogue in the field of employment and training; strategies in employment and vocational training, social protection measures for unemployed persons.</p> <p>National Agency for EU Programmes in Education and Training provides access to the European alternative and active lifelong learning. The agency:</p> <ol style="list-style-type: none"> 1. Manage and allocate EU funds in education, training and youth 2. Support the institutions, organizations and individuals to develop skills and competencies, 3. Encourage and support networking, exchange of experiences, best practices and know-how 4. Form and change attitudes and mentalities 5. Adopt and promote European values and integrate Romanian values in the European context 6. Promote a culture of excellence.
1.2	Social actors	National Council for Adult Vocational Training
1.3	Researchers, students	<p>The Romanian Academy, the highest cultural forum of Romania, has several main objectives: preserve the language and national literature, the study of national history, major scientific research fields, and promoting democratic and ethical principles regarding the free communication of ideas in science, art and letters Romanian.</p> <p>The Academy of Economic Studies is the top representative in Romania of economic higher education.</p>
1.4	Media	Newspapers and reviews.

2.	<p>Users' needs origin</p> <p>The users requested the number of persons who have attended a training course and which were the obstacles of the organized participation (formal and non formal education). Also, information was requested on the situation of participation to formal and non formal education.</p>
----	---

3.	Users needs satisfaction
	The requested information was provided to users. Tables with main indicators drawn from the Adult Education Survey are presented in the publication "Adult Education Survey".

IV. Accuracy

1.	Sampling method
	<p>Sampling design: Two-stage cluster sampling</p> <p>Sampling stage 1 – selection of survey centres</p> <p>In a first phase, the national territory was delimited in geographical areas, named Primary Units (PU), so that no area of the national territory was excluded. From these PU was extracted a sample of PU which constitutes the research centers in EMZOT. From these research centers are selected the dwellings samples for household surveys. A primary unit (PU) was constituted of minimum three neighboring census sections, in order to fulfill the condition of a minimum necessary volume calculated as number of permanent dwellings (1400).</p> <p>As the accuracy of the estimations resulted from the surveys depends, mostly, on the quality of PU constitution and selection, in view of ensuring an optimal representativeness at national and regional level, the definition of UP was made on layers, constituted on the basis of the criteria county and area of residence (urban, rural). Thus, it resulted a number of 88 layers (in the Municipality of Bucharest, the 6 administrative districts constitute distinct layers).</p> <p>The probabilities of PU inclusion were calculated proportionally with PU size, which is defined as number of permanent dwellings (as only households from the permanent dwellings, in the moment of the study, are investigated, the other dwellings being considered outside the survey's scope).</p> <p>The extraction of the Primary Units in the first phase was made separately on each layer using the method of balanced extraction using an automatic procedure performed under SAS software (macro CUBE).</p> <p>By using this method, the quality of PU extraction was considerably improved, thus influencing the quality of the survey results in the social statistics domain.</p> <p>The management system of the EMZOT sampling frame is designed so that it enables the strict monitoring of the selections performed in time and space and the identification of certain characteristics required for the treatment of non-responses.</p> <p>Sampling Unit: Survey Centre</p> <p>Stratification: County (41) and urban/rural area. The six sectors of Bucharest correspond to separate strata. In total 88 strata.</p> <p>Sampling design: Stratified πps-sample (survey centres sampled with a probability proportional to the size)</p> <p>Size measure: Number of permanent dwellings in survey centre</p> <p>Number of survey centres in stratum h: N_{lh}</p> <p>Number of sampled survey centres in stratum h: n_{lh}</p>

	<p>First stage inclusion probabilities, π_{1k}, generated by sampling design:</p> $\pi_{1k} = n_{1h} * (N_i / t_{xh})$ <p>where</p> <p>n_{1h} = sample size stage 1, stratum h</p> <p>N_i = number of permanent dwellings, survey centre i</p> <p>t_{xh} = number of permanent dwellings, stratum h</p> <p>Design weight stage 1: $d_{1k} = (1/\pi_{1k})$</p> <p>Sample size stage 1: 780 survey centres (427 centres in urban area and 353 centres in rural area).</p> <p>Sampling stage 2 - selection of dwellings from the selected survey centres</p> <p>In the second phase of sampling are selected, from each Primary Unit (survey centre), Secondary Units of sampling, represented by dwellings, based on the method of systematic selection. This method ensures a very good dissemination of the surveyed dwellings within the centre.</p> <p>Sampling Unit: Dwellings</p> <p>Sampling design: Systematic Sampling</p> <p>Sampling interval: a</p> <p>Number of dwellings in survey centre i: N_i</p> <p>Number of sampled dwellings in survey centre i: n_i</p> <p>Second stage inclusion probabilities, π_{2k}, generated by sampling design: $\pi_{2k} = (1/a)$</p> <p>Design weight stage 2: $d_{2k} = (1/\pi_{2k})$</p> <p>Sample size stage 2: 11 700 dwellings</p>
--	---

2.	<p>Additional measures taken at the time of sampling design to improve representativeness</p>
	<p>It was not the case for further action.</p>

		<i>Number of households</i>	<i>Number of individuals</i>
3.A	<p>Gross sample size</p> <p>The number of individuals initially selected from the sampling frame (if not applicable, please indicate why).</p>	11795 households	26325

4.	<p>Estimation /grossing-up procedures</p>
	<p>Parameters of interest</p> <p>Population total: $t_y = \sum_U y_k$</p> <p><i>(Sum over U means sum over the population of individuals)</i></p> <p>The parameter of interest could also be a function of two totals, i.e. a proportion.</p>

Horwitz-Thompson estimation under ideal conditions (no non-response)

$$\text{Estimator: } \hat{t}_y = \sum_s d_{1k} d_{2k} y_k \quad (4.1)$$

(Sum over s means sum over the sample of individuals)

A proportion is estimated by separate estimates of the population totals. Estimator (4.1) is an unbiased estimator of the population total.

Estimation under non-response

Due to non-response in the second stage the design weights has to be adjusted for non-response.

The second stage design weights are adjusted in two steps.

Step 1 – expansion with inverted response rates

The second stage design weights were adjusted by expanding them with the inversed response rate in each survey centre.

$$d_{2k*} = d_{2k} * \frac{n_i}{m_i}$$

where m_i = number of responding dwellings, survey centre i

Then, we have the estimator:

$$\hat{t}_{y*} = \sum_r d_{1k} d_{2k*} y_k \quad (4.2)$$

(Sum over r means sum over the responding individuals)

Under the assumption that the households respond independent and with equal response probabilities within survey centres, estimator (4.2) is an unbiased estimator of the total population.

Step 2 – use of auxiliary information

In order to approve the accuracy of the estimates, auxiliary information were used in a regression estimator. The regression estimator can be expressed as:

$$\hat{t}_{yr} = \sum_r d_{1k} d_{2k*} g_k y_k \quad (4.3)$$

where g_k is a weight derived from the auxiliary information.

Auxiliary information used in estimator (4.3)

Numbers of persons in target population by:

Region*sex*age classes*area

The auxiliary groups are as follows:

Region	Sex	Age groups	Area
NORD-EST	Male	25-34 years	Urban
SUD-EST	Female	35-49 years	Rural
SUD-MUNTENIA		50-64 years	
SUD-VEST OLTENIA			
VEST			
NORD-VEST			
CENTRU			
BUCUREȘTI-ILFOV			

In total 96 auxiliary groups are used in the regression estimator. The structure of the population variables mentioned is known from external sources.

V. Sampling errors

5.1	Standard error
	<p>Estimates of variance were calculated by the SAS macro ‘ETOS’ (new version of CLAN) developed by Statistics Sweden. To calculate the variance from the first stage sample, ETOS use an approximate variance estimator for πps-sampling. The variance estimator is described in Rosén, B. (2000), <i>A User’s Guide to Pareto πps Sampling</i>, Statistics Sweden R&D Report 2000.</p> <p>The second stage sampling was performed with systematic sampling, which is a sampling design where no unbiased variance estimator exists. Estimation of the second stage variance is done under the assumption that the second stage sample was drawn as a simple random sample from each survey centre.</p> <p>The variance estimator can be divided into two components: $\hat{V}(\hat{t}_{yr}) = \hat{V}_1 + \hat{V}_2$ (5.1)</p> <p>To be able to describe the variance estimator, the regression coefficient, $\hat{\mathbf{B}}$ and the residuals, e_k, need to be defined:</p> <p>Regression coefficient and residuals</p> $\hat{\mathbf{B}} = \hat{\mathbf{T}}^{-1} \sum_r d_{1k} d_{2*k} \mathbf{x}_k y_k \quad (5.2)$ $e_k = y_k - \mathbf{x}'_k \hat{\mathbf{B}} \quad (5.3)$ <p>Variance from the first stage</p> $\hat{V}_1 = \sum_h \frac{n_{1h}}{n_{1h} - 1} \sum_{s_{1h}} \left(\frac{z_i}{\lambda_i} - \sum_{s_{1h}} \frac{z_i (1 - \lambda_i) / \lambda_i}{\sum_{s_{1h}} (1 - \lambda_i)} \right)^2 (1 - \lambda_i) \quad (5.4)$ <p>(Sum over s_{1h} means sum over the sample of survey centres in stratum h) where n_{1h} is defined in chapter IV.1, $z_i = \sum_{r_i} d_{2*k} g_k e_k$</p>

and

λ_i is the inclusion probability for survey centre i

Variance from the second stage

$$\hat{V}_2 = \sum_h \sum_{s_{th}} \frac{1}{\lambda_i} \frac{N_i^2}{m_i} \left(1 - \frac{m_i}{N_i}\right) s_{z_i}^2 \quad (5.5)$$

where $s_{z_i}^2 = \frac{1}{m_i - 1} \sum_{r_i} (z_j - \bar{z}_{r_i})^2$

(Sum over r_i means sum over the responding dwellings in survey centre i)

with $z_j = \sum_{U_{ij}} g_k e_k$

(Sum over U_{ij} means sum over the individuals in survey centre i , dwelling j)

and \bar{z}_{r_i} is the mean of the observed z_j -values in survey centre i .

Standard error:

Estimation of standard errors was done by: $SE(\hat{t}_{yr}) = \sqrt{\hat{V}(\hat{t}_{yr})}$

Basic information on the population

	<i>Population</i>		<i>Sample</i>		<i>Response</i>		<i>Non response</i>	
	Number	%	Number	%	Number	%	Number	%
All	11236375.2	100.0	*)		13909	100.0	50	100
women	5755382.0	51.2			6724	48.3	28	56
men	5480993.2	48.8			7185	51.7	22	44
Age (1)	11236375.2	100.0	*)		13909	100.0	50	100
25-34	2578543.3	22.9			2599	18.7	12	24
35-49	4500506.7	40.1			5455	39.2	29	58
50-64	4157325.2	37.0			5855	42.1	9	18
Age(2)	11236375.2	100.0	*)		13909	100.0	50	100
25-34	2578543.3	22.9			2599	18.7	12	24
35-54	6004567.9	53.4			7525	54.1	28	56
55-64	2653264.0	23.6			3785	27.2	10	20
Educational attainment level	11236375.2	100.0	*)		13909	100.0	50	100
ISCED5+6	1597627.4	14.2			1742	12.5	7	14
ISCED 3A,B, 3C long programmes (≥ 2 years), 4	6651163.6	59.2			8161	58.7	22	44

No formal education or below ISCED 1 + ISCED1+2+3C short programmes (<2 years)	2987584.2	26.6			4006	28.8	21	42
Labour status - thou	11236375.2	100.0	*)		13909	100.0		100
Employed	7649351.5	68.1			9133	65.7	-	-
Unemployed	316904.2	2.8			392	2.8	-	-
Inactive	3270119.5	29.1			4384	31.5	-	-
Degree of urbanisation	11236375.2	100.0	11700**)	100	13909***)	100.0	50	100
Densely-populated area	4641472.7	41.3	4395	37.6	5116	36.8	21	42
Intermediate area	117802.1	1.0	120	1.0	186	1.3	0	0
Thinly-populated area	6477100.4	57.6	7185	61.4	8607	61.9	29	58

*) Not applicable because the sample is made of households.

***) dwellings

***) persons

<i>Indicator or subindicator</i>		<i>Number of respondents</i>	<i>Estimated proportion</i>	<i>Standard error (with respect of sampling plan)</i>	<i>95% confidence interval</i>
5.1	Participation rate in non-formal education				
5.1	All	621	4.7	0,277	4.2-5.3
5.1.1.2	women	318	4.6	0.337	4.0-5.3
5.1.1.3	men	303	4.8	0.338	4.1-5.4
5.1.2.1	persons 25-34 years old	165	6.4	0.573	5.3-7.6
5.1.2.2	persons 35-49 years old	286	5.3	0.386	4.6-6.1
5.1.2.3	persons 50-64 years old	170	2.7	0.260	2.2-3.3
5.1.2.4	persons 35-54 years old	359	4.8	0.322	4.2-5.5
5.1.2.5	persons 55-64 years old	97	2.4	0.297	1.8-2.9
5.1.3.1	people with the educational attainment level of ISCED 1 or 2 or 3C short programmes (<2years)	36	1.1	0.242	0.6-1.6
5.1.3.2	people with the educational attainment level of ISCED 3A or 3B or 3C long programmes (>=2years) or 4	325	4	0.295	3.4-4.6
5.1.3.3	people with the educational attainment level of ISCED 5 or 6	260	14.5	1.121	12.3-16.7
5.1.4.1	employed	587	65	0.390	5.7-7.2
5.1.4.2	unemployed	10	2.6	0.853	0.9-4.2
5.1.4.3	inactive	24	0.7	0.141	0.4-1.0

<i>Indicator or subindicator</i>		<i>Number of respondents</i>	<i>Estimated proportion</i>	<i>Standard error (with respect of sampling plan)</i>	<i>95% confidence interval</i>
5.1.5	Share of non-formal education and training participants who participated in the training for job related reasons	515	81.8	1.743	78.4-85.3
5.1.6	Share of non-formal education and training participants who participated in the training during paid working hours.	373	59.5	2.651	54.3-64.7

<i>Indicator or subindicator</i>		<i>Number of activities</i>	<i>Estimated proportion</i>	<i>Standard error (with respect of sampling plan)</i>	<i>95% confidence interval</i>
5.2	Share of the job related activities in non-formal education	527403	81.4	1.843	77.8-85.0
5.3	Share of non-formal activities which took place during paid working hours	390001	60.2	2.621	55.0-65.3

<i>Indicator or subindicator</i>		<i>Number of activities</i>	<i>Estimated proportion</i>	<i>Standard error (with respect of sampling plan)</i>	<i>95% confidence interval</i>
5.4	Participation in formal education activities				
5.4.1	<i>Formal education activities</i>	446753	100	0	100-100
5.4.1.1	000 General programmes	5300	1.2	0.675	0.0-2.5
5.4.1.2	100 Teacher training	17602	3.9	1253	1.5-6.4
5.4.1.3	200 Humanities, languages and arts	12873	2.9	0.894	1.1-4.6
5.4.1.4	222 Foreign languages	13763	3.1	1.027	1.1-5.1
5.4.1.5	300 Social sciences, business and law	248744	55.7	2604	50.6-60.8
5.4.1.6	42+44 +46+ 600 Life and physical science mathematics statistics and agriculture and veterinary	28960	6.5	1.408	3.7-9.2
5.4.1.7	481 Computer science	20620	4.6	1.052	2.6-6.7
5.4.1.8	482 Computer use	2947	0.7	0.381	0.0-1.4

<i>Indicator or subindicator</i>			<i>Number of activities</i>	<i>Estimated proportion</i>	<i>Standard error (with respect of sampling plan)</i>	<i>95% confidence interval</i>
5.4.1.9	500	Engineering, manufacturing and construction	46671	10.4	1.646	7.2-13.7
5.4.1.10	700	Health and welfare	41428	9.3	1.712	5.9-12.6
5.4.1.11	800	Services	7845	1.8	0.648	0.5-3.0
5.4.1.12	900	Unknown	0	0	0.000	0.0-0.0
5.4.2	<i>Non-formal education activities</i>		644294	100	0	100-100
5.4.2.1	000	General programmes	5602	0.9	0.371	0.1-1.6
5.4.2.2	100	Teacher training	62699	9.7	1.523	6.7-12.7
5.4.2.3	200	Humanities, languages and arts	12351	1.9	0.691	0.6-3.3
5.4.2.4	222	Foreign languages	21569	3.3	0.947	1.5-5.2
5.4.2.5	300	Social sciences, business and law	174494	27.1	2.247	22.7-31.5
5.4.2.6	42+44 +46+ 600	Life and physical science mathematics statistics and agriculture and veterinary	21528	3.3	0.827	1.7-5.0
5.4.2.7	481	Computer science	16732	2.6	0.703	1.2-4.0
5.4.2.8	482	Computer use	67155	10.4	1.586	7.3-13.5
5.4.2.9	500	Engineering, manufacturing and construction	71532	11.1	1.369	8.4-13.8
5.4.2.10	700	Health and welfare	74491	11.6	1.391	8.8-14.3
5.4.2.11	800	Services	115606	17.9	1.888	14.2-21.6
5.4.2.12	900	Unknown	535	0.1	0.085	0.0-0.2
5.4.3	<i>Informal learning</i>		3272316	100	0	100-100
5.4.3.1	000	General programmes	112769	3.4	0.863	1.8-5.1
5.4.3.2	100	Teacher training	48822	1.5	0.232	1.0-1.9
5.4.3.3	200	Humanities, languages and arts	190185	5.8	0.642	4.5-7.1
5.4.3.4	222	Foreign languages	151080	4.6	0.500	3.6-5.6
5.4.3.5	300	Social sciences, business and law	504882	15.4	1.134	13.2-17.7
5.4.3.6	42+44 +46+ 600	Life and physical science mathematics statistics and agriculture and veterinary	446719	13.7	1.592	10.5-16.8

<i>Indicator or subindicator</i>			<i>Number of activities</i>	<i>Estimated proportion</i>	<i>Standard error (with respect of sampling plan)</i>	<i>95% confidence interval</i>
5.4.3.7	481	Computer science	128960	3.9	0.502	3.0-4.9
5.4.3.8	482	Computer use	488213	14.9	1.098	12.8-17.1
5.4.3.9	500	Engineering, manufacturing and construction	486401	14.9	1.102	12.7-17.0
5.4.3.10	700	Health and welfare	325278	9.9	0.871	8.2-11.6
5.4.3.11	800	Services	389006	11.9	0.994	9.9-13.8
5.4.3.12	900	Unknown	0	0	0.000	0-0

<i>Indicator or subindicator</i>			<i>Number of hours</i>	<i>Estimated proportion</i>	<i>Standard error (with respect of sampling plan)</i>	<i>95% confidence interval</i>
5.5	Share of instruction hours by filed					
5.5.1	<i>Formal education activities.</i>		148336878	100		
5.5.1.1	000	General programmes	2286814	1.5	1.7	0-3.3
5.5.1.2	100	Teacher training	3773837	2.5	2.3	0.2-4.8
5.5.1.3	200	Humanities, languages and arts	1859386	1.3	1.5	0-2.7
5.5.1.4	222	Foreign languages	5986235	4	3.1	0.9-7.1
5.5.1.5	300	Social sciences, business and law	68334778	46.1	6.5	39.6-52.6
5.5.1.6	42+4 4+46 +600	Life and physical science mathematics statistics and agriculture and veterinary	11672472	7.9	4.8	3.1-12.6
5.5.1.7	481	Computer science	9798194	6.6	3.7	2.9-10.3
5.5.1.8	482	Computer use	1287908	0.9	1.1	0-2.0
5.5.1.9	500	Engineering, manufacturing and construction	22006297	14.8	5.6	9.2-20.4
5.5.1.10	700	Health and welfare	18790940	12.7	6.3	6.3-19.0
5.5.1.11	800	Services	2540017	1.7	1.5	0.3-3.2
5.5.1.12	900	Unknown	0	0	0	0-0
5.5.2	<i>Non-formal education activities</i>		36806633	100		
5.5.2.1	000	General programmes	234582	0.6	0.3	0-1.3
5.5.2.2	100	Teacher training	2265373	6.2	1.5	3.2-9.2

<i>Indicator or subindicator</i>			<i>Number of hours</i>	<i>Estimated proportion</i>	<i>Standard error (with respect of sampling plan)</i>	<i>95% confidence interval</i>
5.5.2.3	200	Humanities, languages and arts	1060078	2.9	1.3	0.4-5.4
5.5.2.4	222	Foreign languages	2094837	5.7	2.4	1.0-10.4
5.5.2.5	300	Social sciences, business and law	8266151	22.5	2.9	16.9-28.1
5.5.2.6	42+4 4+46 +600	Life and physical science mathematics statistics and agriculture and veterinary	787660	2.1	0.7	0.7-3.5
5.5.2.7	481	Computer science	646634	1.8	0.6	0.6-2.9
5.5.2.8	482	Computer use	5513021	15	4.2	6.7-23.2
5.5.2.9	500	Engineering, manufacturing and construction	6837894	18.6	3.7	11.4-25.8
5.5.2.10	700	Health and welfare	2436488	6.6	1.2	4.2-9.0
5.5.2.11	800	Services	6643035	18	2.7	12.7-23.4
5.5.2.12	900	Unknown	20880	0.1	0.1	0-0.2

<i>Indicator or subindicator</i>		<i>Estimated value</i>	<i>Coefficient of variation</i>
5.6.1	Average amount paid by participant for all the expenses related to all the formal education activities	289	0.07
5.6.1.1	Average amount paid by a participant for tuition, registration and exam fees related to all the formal education activities	285	0.07
5.6.1.2	Average amount paid by a participant for books and/or technical study means related to all the formal education activities	4	0.26
5.6.2	Average amount paid by a participant for all the expenses related to all the non-formal education activities	64	0.17
5.6.2.1	Average amount paid by a participant for tuition, registration and exam fees related to all the non-formal education activities	41	0.12
5.6.2.2	Average amount paid by a participant for books and/or technical study means related to all the non-formal education activities	23	0.4

<i>Indicator or subindicator</i>		<i>Estimated value</i>	<i>Coefficient of variation</i>
5.7	Average number of hours spend by a participant in all formal education activities	403	0.06
5.8	Average number of hours spend by a participant in all non-formal education activities		
5.8	All	72	0.07
5.8.1.1	women	66	0.08
5.8.1.1	men	79	0.11
5.8.2.1	persons 25-34 years old	84	0.14
5.8.2.2	persons 35-49 years old	73	0.08
5.8.2.3	persons 50-64 years old	49	0.1
5.8.2.4	persons 35-54 years old	69	0.07
5.8.2.5	persons 55-64 years old	47	0.14
5.8.3.1	people with the educational attainment level of ISCED 1 or 2 or 3C short programmes (<2years)	81	0.25
5.8.3.2	people with the educational attainment level of ISCED 3A or 3B or 3C long programmes (>=2years) or 4	75	0.08
5.8.3.3	people with the educational attainment level of ISCED 5 or 6	68	0.13
5.8.4.1	employed	70	0.08
5.8.4.2	unemployed	96	0.21
5.8.4.3	inactive	106	0.24

VI. Non sampling errors

6.1 Coverage

6.1.1	<p>Sampling frame</p> <p>The household surveys carried out by INS-Romania are based on the use of a master sample EMZOT. EMZOT is a Multifunctional Sample of Territorial Areas, made by the data registered in the Population and Dwelling Census (in 2002). It is a data base including approximate 1.500.000 dwellings, selected according to probabilistic criteria, serving as sample base for all household surveys, during 2004-2013. It is a stratified random sample of 780 areas, Primary Sampling Units (PSU's) using as stratification criteria the residence area and county. The primary sampling unit, corresponding to the selection of the master sample, is a group of census sections. EMZOT is distributed in all counties and Bucharest: 427 in urban area and 353 in rural area.</p>
--------------	---

6.1.2	<p>Known shortcomings of the sampling frame</p> <p>EMZOT was achieved based on the results of the Population and Dwellings Census (March 2002), became operational at the beginning of 2004 and was updated in 2006.</p>
--------------	---

<i>Coverage of population (ineligible cases)</i>		<i>Number of households</i>	<i>Number of individuals</i>
6.1.3	<p>Ineligible: out-of-scope</p> <p>E.g. selected household is not in the target population because all members are under 25 or over 64 years old.</p>	2942	11927
6.1.4	<p>Other ineligible</p> <p>E.g. no dwelling exists at the selected address or selected individual has died between the reference data of the sampling frame (6.1.1) and the moment of the interview.</p>	-	439

6.B	<p>Number of eligible elements</p> <p>I.e. the gross sample size corrected for the ineligible cases.</p> <p>► $[\\$6.B] = [\\$3.A] - [\\$6.1.3] - [\\$6.1.4]$</p>	8853	13959
------------	---	-------------	--------------

6.2 Measurement

6.2.1	<p>Survey vehicle</p> <p>AES was not embedded in another survey.</p>
--------------	---

6.2.2	Survey type
	The method used was face-to-face interview. Very important was the training of controllers and supervisors for proper understanding of the type of education/ training. The controllers have informed the operators that they have the main role to fill in correctly the survey questionnaires: household questionnaire (completed for all household members), individual questionnaire and the questionnaires for formal and non-formal education (the last three questionnaires completed for each person aged between 25-64 years).

6.2.3 Conclusions from pilot testing

These comments can relate to methodological issues as well as to the questionnaire itself (item construction, clarity of definitions to interviewers and respondents etc.)

6.2.3.1	Problematic modules and variables/questions
	<p>1. After the testing it was found that: not all respondents answered the Q11 – YSTARTW. When you start working at your current job? - as there were respondents with professional status “family worker” or “employer” (with employees). The proposed solution was to add some additional instructions for interviewers in the final survey.</p> <p>2. The lack of a filter question Q15 STAPRO1Y-What was your occupational status a year ago? The solution was to add a filter question before the question Q15, namely: “Your status on the main economic activity carried out has changed that was 12 months ago?”. Similar situations were for: employment status, form of employment and occupation of respondent from previous year of survey.</p> <p>3. Regarding the volume of hours of formal and non-formal training activities during the testing phase the following question was used: “What was the average total duration (in hours) of the level of education in the last: week, semester or school year?” In order get a more quickly answer the question was re-worded as follows:</p> <p>a. What was the average number of hours per week?</p> <p>b. In the last 12 months how many weeks you have attended these courses?</p>

6.2.3.2	Problems with the implementation of the CLA concepts
	<p>The concept of formal, non-formal and informal education is not well known to respondents. There is a risk of combining courses from work (non-formal), guided on the job training and instruction from colleagues (informal education).</p> <p>It was proposed to detail and give more examples in the survey’s handbook for each type of education.</p>

6.2.3.3	Problems with the definition of different types of learning activities which appeared during the tests
	Following the survey testing, regarding the question on non-formal education it was found that, “guided on the job training” is not understood by all respondents and it was proposed that a short definition of this concept to be included in the question. Therefore, in the final survey it was mentioned as follows: training under the guidance at the work place (excluding unplanned and unorganized training of colleagues).
6.2.4	Proxy answers
	Proxy answers: 2033, respectively 14,62%

6.3 Processing

6.3.1	Please describe data entry and coding control process as well as editing systems applied to the data. What were the main errors detected in the post-data collection process and what was their number.
	<p>Training session coordinators and supervisors at the county level took place on March 2008, before launching the pilot survey. It was presented the composition of the questionnaires and explanations and recommendations were given for potential problems.</p> <p>After the main data collection phase, supervisors responsible for checking the integrity and consistency of data collected by interviewers, assigned numerical codes to certain variables such as: occupation (COR), economic activity (NACE Rev. 1), country of birth and citizenship, the fields of training (education and training fields-Eurostat-December 1999) attended by the respondent, the country where the respondent participated in non-formal education.</p> <p>IT solution achieved (using Visual FoxPro) for each county and at central level was required for data entry and validation of survey results at county and central level. IT solution had as support logical control conditions for each question, among questions, skips from one question to another, the conditions of integrity between: the household questionnaire, individual questionnaire and the formal and non-formal questionnaires and to carry out the Housing and Household form.</p> <p>From the centralized database on the basis of other IT programs it was done the file in CVS format, according to the Eurostat requirements.</p> <p>In the end, the programme XTNet-Edit Lite (proposed by Eurostat) was run for data validation. The following errors were found: missing values of DEGURB, EDUAB, FEDHOUSS1, FEDHOUSG1, WNTPARMOR, missing NFE type, mistyped code at variable WNTMSTIMP, invalid language code, missing formal activity.</p>

6.3.2	What were the questions asked as open and post coded afterwards? (Coding of ISCED, NACE, ISCO).
	Questions: BG9, BG11, BG17, BG18, BG20, BG26, SF3, SF4, FED4X, FED7X, FED11X, FED12X, NFE2Y, NFE4Y (10-Other), NFE12Y, NFE13Y, NFE14Y, NFE20Y (10-Other), NFE22Y, OB211, OB309, OB407, INF81, INF82, INF83, ILP2 (8-Other), LG1, LG2, LG3; post-coded by Statistical Office.

6.3.3	What were the questions where category "other" could be reclassified if an appropriate category was defined in a variable?		
	<i>Question/variable</i>	<i>Percent of answers "other" %</i>	<i>Proposal for a category</i>
6.3.3.1	NWNTOTHR	1.4	I am not interested to attend other courses.
6.3.3.2	WNTOTHR	0.25	A well-paid job do not require a participation to a higher education level.
6.3.3.3	PAROTHR	0.043	Inadequate quality.
6.3.3.4	SOUROTH	0.1	Museums, libraries, presentation, friends, magazines.
6.3.3.5	NFEROTH1	0.03	Additional income, own esteem, creating a new department.
6.3.3.6	NFEPROV1	0.09	County Agency for Employment and Training, NGO's, Body of Experts Accountants and Licensed Accountants in Romania, Consulting and European Studies Center, Auto Driving School, health professionals.

6.4 Response and non-response /Unit non-response

Unit non-response occurs when not all individuals of the gross sample (i.e. the initial sample drawn from the reference sampling frame) participate in the survey and are thus not included in the net sample.

However, not all types of non-response are taken into account when calculating the response rate (in §6.D).

Note: In this report - for reasons of comparability across countries - all non-contacts are considered to be *non-response of eligible cases* (where in reality some of the non-contacts may concern ineligible cases).

<i>Type of unit non-response (eligible cases)</i>		<i>Number of households</i>	<i>Number of individuals</i>
6.4.1	Non-contact E.g. no one was home or postal survey was never sent back.	643	-
6.4.2	Refusal E.g. selected household or individual was contacted but refused to take part in the survey.	318	50
6.4.3	Inability to respond E.g. selected household or individual was unable to participate due to language barriers or cognitive or physical incapacity to respond.	-	-
6.4.4	Rejected interviews E.g. the selected household/individual did take part but the survey form cannot be used (poor quality - e.g. strong inconsistencies; unacceptable item-response – e.g. individual left most of the questions unanswered; survey form got lost; etc.).	-	-
6.4.5	Other non-response Please specify the other types of non-response encountered. <u>Note</u> : please add the other non-response related to ineligibility of the selected elements under §6.2. • ... • ...	201	-
6.C	Net sample size The number of households/individuals that can be used in the final database (if not applicable, please indicate why). ▶ $[\$6.C] = [\$6.B] - [\$6.4.1] - [\$6.4.2] - [\$6.4.3] - [\$6.4.4] - [\$6.4.5]$	7691	13909

		<i>Households</i>	<i>Individuals</i>
6.D	<p>Unit response rate</p> <p>The unit response rate is the ratio of the <i>number of in-scope respondents</i> (= the number of achieved interviews or the net sample size, see §6.C) to the <i>number of eligible elements</i> selected from the sampling frame (see §6.B). The number of eligible elements equals <i>the gross sample size</i> (see §3.A) <i>minus the ineligible cases</i> (see §6.1.3 and §6.1.4).</p> <p>▶ $[\\$6.D] = [\\$6.C] / [\\$6.B]$</p>	0.87	0.99

6.4.6	Comments on the unit response rate
	No comments.

6.4.7	<p>Methods used for minimizing unit non-response</p> <ul style="list-style-type: none"> • <p>In order to carry out the pilot survey, it was prepared a letter for the households. The aim was to inform on the importance of their participation in this survey. The letter presents the main objectives of the survey and ensure the respondents on the confidentiality of data recorded.</p>
--------------	--

6.4.8	Methods used for dealing with unit non-response
	No methods used for dealing with unit non-response.

6.4.9	<p>Other comments relating to the unit non-response</p> <p>If any, please use this box to inform on additional issues on the non-response calculation (e.g. method used in national publications, etc.).</p>
	No comments.

6.5 Response and non-response /item non-response

Item non-response occurs when a respondent provides some, but not all, of the requested information, or if the reported information is not useable (note that entirely non-useable questionnaire are already counted in the *unit* non-response, see §6.4).

It may occur for a variety of reasons. Items may be missing because the respondent broke off the interview after partially completing it (but enough data were provided so that the questionnaire is not classified as a unit non-response). Items may be missing because the

respondent inadvertently skipped an item, a module or a page (especially in self-administered mail surveys). Or a respondent may simply not have the information on the question (and no don't know option is foreseen) or refuse to give the requested information.

6.5.1	Questions with item response rates below 90%		
		QUANTILE (25.6%), WNTPAR (89.5%), NWNTPERQ (88.9%), NWNTDIST (81.6%),	NWNTOTHR (69.9%), SELFIEL3 (88.0%), INTERNET (32.4%), ICTLEVELS (33.6%), BOOKHOME (89.5%).

6.5.2	Methods used for dealing with item non-response
	Imputation was not carried out in this survey.

6.5.3	Other comments relating to the item non-response
	Not applicable.

VII. Timeliness and punctuality

A. Preparation of pilot testing August 2007-January 2008
B. Pilot testing January 2008-February 2008
C. Preparation of survey February 2008-March 2008
D. Fieldwork March 2008-April 2008
E. Processing (including quality control and editing) May 2008-November 2008
F. Correct and complete micro data delivered to Eurostat June 2009 – June 2010
G. Dissemination of national results July 2009

VIII. Accessibility and clarity

1.	<p>Conditions of access to data, media support, possible restrictions etc.</p>
	<p>The publication “Adult Education Survey” was disseminated in July 2009. It contains the main tables on formal, non-formal and informal education.</p>
2.	<p>Available information accompanying the statistics</p>
	<p>Users will be provided with data at aggregate level and the quality report. Microdata will be provided at researchers request and shall be used only for statistical/research purposes.</p>

IX. Comparability/ Deviations from the AES recommendations

1.	<p>Coverage and definitions of variables</p>
	<p>Variable MOTHTONG2 was not included in the national individual questionnaire. Some changes had been made to one of the questions related to obstacles. OB1a question was repeated, but the respondent was asked if he/she intend to participate in other levels of education, followed by the question whether there are reasons which have prevented the respondent to participate in other levels of education and other seminars, courses and so on in the last 12 months. If the respondent answered 'Yes' then the interview continued with asking to choose the reason that prevented to participate in other levels of education and other seminars, etc. (OB4). If the respondent answered 'No' the questions on the reasons were skipped, the interview continuing with the module on access to information on learning opportunities.</p>
2.	<p>Survey design/interviewing methods</p>
	<p>According with AES recommendations on survey design and interviewing methods were carried out face to face interviews using paper questionnaires.</p>

X. Coherence

Comparison of statistics for the same phenomenon or item from other surveys
<p>AES is carried out for the first time and no other comparable sources or time series are available.</p> <p>Data from AES and LFS are not directly comparable, because of different reference periods, coverage of learning activities, different sizes of sampling etc.</p> <p>The Labour Force Survey was carried out on a sample of 28080 dwellings/quarter (with all comprised households), applying the „2-2-2 rotation scheme” which is the basic principle of the following technique: a dwelling is examined for a period of two quarters, is removed temporarily from survey for next two quarters, is reintroduced in the research over the next two quarters, then is permanently removed from the survey. Therefore, a dwelling is managed for six quarters, being interviewed four times. According to the applied scheme, in each quarter shall be kept in the sample 50 % of the dwellings in the previous quarter, 25% of the dwellings examined two quarters ago, and the remaining 25% are new dwellings. This is how is maintained a coverage of 50% of the samples from a quarter of a specific year, to the same quarter of the previous year.</p> <p>The reference period for information on the participation in education or training in the Labour Force Survey was the last four weeks prior to the interview.</p> <p>For the Adult Education Survey were selected 11,700 sample dwellings, were collected data from 11,489 dwellings, the rest being seasonal dwellings (134), missing, destroyed, demolished, etc. (77). Within these dwellings were identified 11575 households and 10632 households have accepted the interview, 318 households refused to participate in the survey, 307 were impossible to contact, and 318 were missing for a long time.</p> <p>The reference period for information related to educational activities in the Adult Education Survey is the last 12 months prior to the interview.</p>

XI. Overall assessment

<ul style="list-style-type: none">• Strengths:<ul style="list-style-type: none">– Generally, high response rate and insignificant problems with item non-response;– In general, few respondents did not understand certain concepts and key questions but most of them have been cooperative and answered the question from questionnaires of survey.• Weaknesses:<ul style="list-style-type: none">– The length of the interview is too large for achieving the interview in households with many members.

XII. Problems encountered and lessons to be learned

12.1	Problematic modules and variables/questions We used a different order of questions in the questionnaire (e.g. the question on revenue has been moved at the end of the individual questionnaire, as well as the questions on the level of education and occupation of the parents) in order to get as many answers as possible from the respondent. Regarding the LGZ5 question (Q45) on choosing the response that best describes your knowledge about the foreign languages mentioned in the previous question, the first two choices should not be included, because it is assumed that the respondent exceeded the levels of knowledge if previously he/she chose the best known language. Question FED4X (Q23) has multiple answers in the individual questionnaire, being provided as table comprising areas, as well as educational levels corresponding to these areas. After answering to this question the respondent filled in the formal questionnaire (EDF).
12.2	Problems with the definition of different types of learning activities which appeared during the interviews. No comment.
12.3	Other comments There were situations in which more than 12 people aged 25-64 years were living in one household. The reason of the existing data on employed persons aged 15 is that according to the national law a person can conclude an employment contract as an employee at the age of 15, with parental/legal representatives consent.