



Outcome standards and assessment in education: Case study of Standards and Assessment Agency

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Striking facts

- Education sector is crucial for the future of any country and particularly for BiH as it paves the way to democratization and development, and it is important for the success of reforms in other areas

- Education is one of the main human rights, but nowadays each country invests a lot of efforts to ensure the quality of its education

- In Slovenia, on the Conference for Human Rights¹, ombudsmen for Human Rights dr. Zdenka Čebašek Travnik was wondering if slow achievements of pupils in some regions means human rights violation. "The school, which found that its students have poor results compared with students of other schools would be required to take immediate action, because it was responsible for the failure to teach students. If it was more schools, or even all schools in an area, the state would be required to carefully analyze the reasons and all aspects that may influence the success of students. Measures should be based on positive discrimination, because state should to some schools provide more relevant technical and material support," she stressed at the conference "Impact on the development of quality education of the Pomurje region" and announced that her office would still investigate the extent to which the violation of children's rights because of state education.

- Each of the cantons, Republika Srpska and Brcko District have the right to define their own standards and curriculum. With no quality assurance system in place it is difficult if not impossible to assess the quality of standards and curricula, quality of education in general and to assure comparability of education systems.

- Assessment organised at the central level of pupils' achievements and/ or external evaluation in the context of learning is one of the methods for quality assurance in primary and secondary education and it could be used to monitor performance of various educational systems in BiH.

- World Bank supported in year 2000 the establishment of Standards and Assessment Agency

(SAA) as an inter-entity institution, with the aim to establish a professional institution, developing and implementing assessments for the whole BiH, following international assessment procedures.

Project of the Standards and Assessment Agency was only partly successful, as it only showed the tip of the iceberg. Assessment were carried out, but the main problem was, as results of this study show, that assessments were not developed in close cooperation with beneficiaries of these assessments (ministries of education, pedagogical institutes, schools, teachers), that results were not exploited and used as foreseen and that no further, deeper analysis were carried out in order to provide relevant information for policy makers, which was a lost opportunity.

Data from the project Quality Assurance in Education² and also data from this research³ showed, that Pedagogical institutes had express high levels of satisfaction with cooperation with the SAA in preparing and conducting tests, while they were less satisfied with the cooperation in data analysis and the least satisfied with the training of teachers in applying standards and defining measures to improve quality of education.

Ministries complained⁴ that SAA did analysis and comparison of pupils' achievements by canton/region but without deeper analysis why one region was more successful than another.

Ministries mostly complained that the SAA should have given more effort to establish pupils' achievements and those descriptions of levels of achievement needed to be more precise.

- For example, in TIMSS International Mathematics 2007 Report⁵, on the question about assessment practice in Mathematic classes, according to teachers' report in BiH there were 17% pupils who were taught by teachers who gave major emphasis on national achievement tests, 44% pupils whose teachers gave some and 39% pupils whose teachers gave little or no emphasis on national achievement tests. In Slovenia, national or regional achievement tests had big influence as a source to

¹[http://www.vecer.com/clanek2009120105490583,Conference of Academic Research Union in Pomurske \(Pazu\), www.pazu.si/dokument/25/2/2009/BiltenPAZU09_315.pdf](http://www.vecer.com/clanek2009120105490583,Conference%20of%20Academic%20Research%20Union%20in%20Pomurske%20Pazu)

² Overview of the status of the organization and function of education institutes in BiH, EQA-OKO project of EU, 2009

³ Questionnaires for this study were designed for representatives of Pedagogical institutes

⁴ Questionnaires for this study were designed for representatives of ministries of education

⁵ TIMSS 2007 International Mathematics Report, Ina V.S. Mullis, Michael O. Martin, Pierre Foy, IEA

Article 5.

In the area of setting the standards for knowledge and assessment of the achieved results, in pre-primary, primary and secondary education, and for other professional duties in the field of standards of knowledge and assessment of education quality, the Agency is competent for:

- a) identification of standards of students' knowledge and assessment of the achieved results;
- b) carrying out research activities with the aim of assessing the development of student knowledge standards, assessment of the achieved results and publishing of the research outcomes;
- c) providing advice to the competent educational authorities in relation to the issues of the prescribed knowledge standards and their implementation;
- d) establishment and guidance of mechanisms of reporting on the state of education in Bosnia and Herzegovina;
- e) collecting, processing and publishing data on knowledge quality and quantity;
- f) implementation of the external assessment;
- g) providing guidelines for the implementation of teacher and associate experts training in the field of knowledge standards and external assessment;
- h) establishing contacts with the international bodies abroad that have similar functions and with the international organizations and institutions, with the aim of harmonizing the prescribed regulations in education;
- i) providing assistance in recognition of local educational certificated and diplomas abroad as well as recognition of the foreign ones in Bosnia and Herzegovina;
- j) carrying out other activities in relation to the establishment and implementation of knowledge standards and assessment.

⁶ Technical Report 2008, SAA, 2008

⁷ The Law On The Agency For Pre-Primary, Primary And Secondary Education, Official Gazette BiH" no. 88/07

⁸ Law on Primary and Secondary Education, Official Gazette BiH (18/2003)

monitor students' progress and even 83% pupils were taught by teachers who had given major emphasis on national achievement tests.

- In period 2002-2008 SAA tested 53754 pupils of final grade, 5779 pupils of 4/5 grade in primary schools and 1344 pupils of secondary schools. Standards were defined for Mathematics, Mother Tongue, Science and Social Skills, Physics, Biology and Chemistry in primary schools.

When teachers were asked about knowing and applying standards of achievement in teaching, 186 of them gave the following answers: 33.8% of them knew and used the standards, 22% knew the standards but they didn't apply them and 44.8% did not know the standards. Teachers who know the best standards are Mathematics and Mother Tongue teachers for the final grades. Among participants, the most were teachers of 4th grade and 66% of them said that didn't know and use standards. Teacher of Sciences were the least familiar with standards. It is the teachers in those schools where the most of testing were conducted. For schools and teachers where testing was done only once, the only responses were that teachers did not remember testing and couldn't answer the questionnaires.

- Trend data⁶ of pupils achievements for the Mother Tongue and Mathematics in period 2002/03 and 2007/08 showed that situation was getting better in Mother Tongue for each level of achievements. In lower level in 2002/03 there were 94% pupils and the 2007/8 results showed a shift to 46% of pupils. Similar situation was for the other two levels. In the medium level in 2002/03 there were 6% of pupils and in year 2007/8 52% of them; in high level there were in 2% of pupils in 2008 comparing with 0% in 2002.

In the Mathematics situation the situation didn't change, it was the same, almost identical. There was no shift in students' achievements regarding levels. In 2007/2008 at low level there were 79% of pupils, at medium level 19% and at high level 2% of pupils, like in 2002/03.

There was no detailed and deeper analysis why results were like those?

- Bosnia and Herzegovina took for the first time part in international assessment Trends in International Mathematics and Science Study 2007 (TIMSS 2007). TIMSS through achievements in mathematics and science investigates the curricula and teaching and classroom practices in participating countries. 4329 of pupils of finale garde wrere tested. Results of our pupils were given. There was no detailed and deeper analysis why results were like those?

Secondary analysis of TIMSS 2007 conducted by Agency for pre-primary, primary and secondary education would give answers with implications on education policy?

- This study/brief argues that the purpose of assessment as a quality assurance system, either international (like TIMSS or others) or assessment at national level, in BiH, without using its results as well as knowing how to use its results in improving the quality of education and making appropriate decisions. is not *cost effective* for any country, especially for countries like BiH.

How to organise assessment in BiH?

Considering the following facts:

- that 12 education systems exist on the territory of BiH, under cantonal/entity jurisdiction
- the role of APOSO by The Law On The Agency For Pre-Primary, Primary And Secondary Education (Article 5)⁷ in setting the knowledge and assessment standards, which was quite similar as the roles in article 47 in Law on Primary and Secondary Education, but extended with the role of the implementation of the external assessment and providing guidelines for the implementation of teacher and associate experts training in the field of knowledge standards and external assessment

There are still no other annexes on the Law⁸ or rule books on external examination in primary and secondary schools, which more precisely regulated applying those standards, relationship among PIs and agency that carried out external evaluation regarding their roles in process of assessment, informing schools, pupils and their parents and so on.

The question was how should be assessment organised amon Agency, pedagogical instituites and ministries as decision makers to be most effective?

There was the idea in this study to explore the use of the IEA (International Association for the Evaluation of Educational Achievement.) model as possible assessment in BiH. IEA is conducting assessments like TIMSS, PIRLS and others, and measures the educational outcomes of 66 countries with different educational system.

Namely, APOSO would be the main institution for common core curriculum and external evaluation of the curriculum. APOSO should developed its capacity with professional expert staff from all areas of the evaluation process (the development of testing programs, item development, test design, data analysis, writing reports an so using good practices from SAA).



APOSO in strong cooperation with the PIs and ministries should develop assessment framework. Assessment Framework would include: Parts of the curriculum to be tested, the percentage of subject domain, the percentage of cognitive categories, population for testing, questionnaires about implementing curriculum and contest of learning

PIs would take, with respect to their jurisdiction and a strong professional relationship with schools, the role of test administration.

In the questionnaire⁹ directors of PI were asked if PI would conduct test administration and whether there was capacity in PIs for such a role. This would mean using a model similar to the TIMSS-assessment model. TIMSS participants (countries) conduct testing; IEA creates tests and questionnaires and carries out the analysis.

PIs could implement test administration which includes providing data on schools, printing tests, administering test, the collection of tests, and scoring, entering data in a database and sending the database to APOSO. In many of those functions PIs already collaborated with SAA, through working groups.

APOSO would perform final analysis, depending on its capacity to do that, with the Agency for statistics independently. The analysis would be sent to PIs.

PIs could perform additional analysis by school level in order to find schools with good practices that could be transferred to the practice of schools that have poor results.

In this way, the PIs would be deeply involved in research and development, functions that have been neglected in PIs. Ministry would be also, with its coordinators, better included in further external assessment, especially when it comes to education outcomes to be measured, which are important from the standpoint of decision-makers. In this way the work of APOSO would be more acceptable. Collaboration on the line APOSO-PIs-Ministries would be strengthening.

Answering question about taking the role of test administration, the capacity for that role and coordination with schools, five PI have expressed their willingness with the role of test administration, others were against and all PIs, regarding the coordination with schools, declared that they could handle that successfully.

In this way implementation of standards as well as additional analysis would be carried out at cantonal/entity levels like responsibility for education in BiH was.

Conclusions and recommendations from the study *Outcome standards and assessment in education: Case study of Standards and Assessment Agency*

The Standard and Assessment Agency was on a good way to establish assessment procedures which correspond to international ones. They determined standards of pupils' achievements and assessed the level of achieved standards. They did pioneer work in development of assessment in BiH. But in many segments the SAA missed to be more active, transparent, public and cooperative regarding stakeholders and beneficiaries policy regarding outputs and outcomes of education. SAA didn't develop policy regarding raising education quality. Without more legal basis which would be obligatory for ministries as well as which define more precisely the role of PIs in assessment process, SAA should develop assessment process with usable results.

- Among different educational systems in BiH and implementing common core curriculum, assessment and/or evaluation on the state level could only offer data about the quality of those education systems
- Outcome based education should set curriculum framework of specific, measurable outcomes and those outcomes would be the base for standards. After that, assessment instruments should be developed, following, examination centre/assessment agency conducting testing and analyse results in the context of learning outcomes and context of learning. Finally, examination centre/assessment agency suggests measure for improving curriculum and teaching practice, school organisation and so on. From the school year 2009/10 all schools moved to the 9-years curriculum which is more or less based on learning outcomes..
- Ministries of Education should have more active policy regarding well functioning assessment system at state level, as the part of quality assurance system, which tell them about pupils' achievements as well as context of learning of those achievements. Ministries of Education should value the results of external assessment and its possible impacts on education policy in order to improve quality of education
- APOSO in collaboration with international community should develop institutional capacity in ministries to use results from assessments in education policy
- Ministries of Education should integrate the results of state level assessment into their sys-

⁹ Questionnaires were designed for directors of PIs for this research



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A "Policy Development Fellowship Program" has been launched by the Open Society Fund BiH in early 2004 with the aim to improve BiH policy research and dialogue and to contribute to the development of a sound policy-making culture based on informative and empirically grounded policy options.

The program provides an opportunity for selected fellows to collaborate with the Open Society Fund in conducting policy research and writing a policy study with the support of mentors and trainers during the whole process. Sixty three fellowships have been granted in three cycles since the starting of the Program. All policy studies are available at www.soros.org.ba

tems, procedures, practice as well as require from Pedagogical Institutes to do on its own or in collaboration with APOSO additional analysis

- Pedagogical institutes should besides their role, enhance its research role and cooperate with APOSO in order to use available resource (which are scarce) in the most effective way.
- APOSO also should encourage research activities among other interested giving all necessary support with data
- Pedagogical institutes are the key stakeholders and partners of the Agency. That partnership with defined roles could be can be verified through agreement or memorandum.
- APOSO should try not only to show outputs of education but also to ensure implementation of standards in education in order to influence and improve quality of education (outcome policy). That means APOSO in collaboration with international community should develop institutional capacity in ministries to use results from assessments in education policy, develop stronger cooperation with beneficiaries.
- APOSO should develop indicators of its efficiency and efficacy
- APOSO should harmonise its assessment practice with best international practice like TIMSS and measure the whole context of learning: intended curriculum(it refers to the aims, content, and methods for teaching and learning some subject), implemented curriculum (the context of learning like teaching practice an so on) and attained curriculum (it consists of the concepts, processes, skills, and attitudes towards mathematics and science that students have acquired during their schooling.)
- APOSO should make its work more transparent and available, supportive with information for all participants on the web site
- Training of teachers is necessary for applying standards through workshops, discussion of subject group of teachers, PIs training and so on.
- APOSO should make functioning cooperation and partnership with stakeholders and beneficiaries of the Agency. Each of key institutions should determine what are the benefits as well as the role of each party in the partnership.
- It must be stressed the role of schools and teachers in the process of testing (to get necessary information and support for testing). Teachers and schools must get feedback of testing with information and support for application of

standards. The role of teachers' subject group in standards application must be stressed

- Information on testing and results and the role of testing must more wide and public
- Legal basis for assessment should be adopted like rule books on external evaluation or annexes on existing laws

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