EVALUATIVE REVIEW OF ACTIVE LEARNING IN SERBIA AND MONTENEGRO
1994 - 2004
EVALUATIVE REVIEW OF ACTIVE LEARNING IN SERBIA AND MONTENEGRO 1994 - 2004

A REPORT MADE BY
UNICEF BELGRADE OFFICE

2004
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>FOREWORD</strong></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td><strong>ACKNOWLEDGEMENT</strong></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td><strong>EXECUTIVE SUMMARY</strong></td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Section A. Project Context and Background</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Section B. Active Learning as a Pedagogical Approach</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Section C. Training, Supervision and Support</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Section D. In-service Teacher Training</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Section E. Model School Network</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Section F. Main Effects of Project</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Section G. Issues of Inclusion and Quality</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Section H. Active Learning in the Context of Educational Reform</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Section J. Project Costs, Financing and Economic Context</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Section K. Issues of Effectiveness, Efficiency and Equity in the Project</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>Section L. Projection of Information Systems and Relations with Partners</td>
<td>89</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPENDICES</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Framework for the Evaluation of Active Learning in Serbia and Montenegro</td>
<td>91</td>
</tr>
<tr>
<td>2</td>
<td>Evaluative Review of Active Learning Project - An Introduction to the Report of the Serbian Centre for Quality Assurance and Evaluation</td>
<td>102</td>
</tr>
<tr>
<td>3</td>
<td>Rulebook for Model Schools - Regional Active Learning Centres</td>
<td>107</td>
</tr>
<tr>
<td>4</td>
<td>The Rules on Roles of Project Associates</td>
<td>111</td>
</tr>
<tr>
<td>5</td>
<td>Classroom Observation – The Suggested Framework</td>
<td>115</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUMMARY</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Major Findings in the Evaluative Review of Active Learning Project</td>
<td>118</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ABBREVIATIONS</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>BIBLIOGRAPHY</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
</table>
Good quality education, that is free from any kind of discrimination and includes all children, is a fundamental human right and a key factor for sustainable economic and social development. It is a condition for combating poverty and for the development of democracy and political stability. Achieving the World Declaration “Education for All” (EFA) goals is an obligation of governments. Every child has the right to benefit from an education that meets her/his learning needs, an education that includes learning to know, to create, to act, to socialize and to interact constructively with others. That is, to get the basis to fully exercise her/his citizenship rights and duties and to become one of the cornerstones in a democratic peaceful society based on human rights. The achievement of the EFA goals is still a challenge for the countries in transition. The passage from socialism to democracy and a market economy is a crucial
period to mobilize national and international commitment to invest in children as a means to combat exclusion, poverty and rapidly increasing disparities. The implementation of the Poverty Reduction Strategies (PRSPs) and the National Plans of Action for Children (NPAs) in Serbia and Montenegro should articulate the country’s efforts to put children high on the agenda. Ongoing social reform must consider and respect the Convention on the Rights of the Child (CRC) principles. The PRSPs and the NPAs are important policy documents which incorporate important international commitments, such as EFA, the World Summit Goals for Children and the Millennium Development Goals.

The education sector, with the assistance of UNICEF, introduced Active Learning methodology in primary schools in Serbia and Montenegro in 1994. Active Learning methodology aimed to fulfill the right to education and to improve quality and relevance of education for all children in a learning centered, participative and child friendly environment. This report, an “Evaluative Review of Active Learning”, examines the effects and impact of the Active Learning methodology during the past ten years of implementation. This study was conducted by external experts in a joint collaboration with primary school teachers, pupils, school pedagogues and psychologists, education authorities, and national education experts in Serbia and Montenegro.

This study gives a good overview of progress made during these years. It was done at the final transition stage from being a UNICEF supported model project to an integrated policy in the education system. The study analyzes the concept, the implementation, and effects that the Active Learning methodology has had on children, teachers and the education sector and it gives short, medium and long term recommendations on strategies for future implementation. There are challenges, some shortfalls and lessons learned, however, it is clear that the opportunities offered by applying Active Learning methods, have enhanced children’s achievements, creativity, initiatives, self-esteem, and participation, and have helped teachers to embrace changes in education and build their professional capacities.

The implementation of the Active Learning project in Serbia and Montenegro was supported by our development partners: the Governments of Canada, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Sweden, Switzerland and USA and by the UNICEF National Committees in Belgium, Canada, Germany, Italy, Japan, Switzerland and the UK. Together with them, UNICEF contributed with an amount of 1,331,293 USD of external funding.

Ann-Lis Svensson
UNICEF Area Representative for Serbia and Montenegro
ACKNOWLEDGMENT

This Evaluative Review has been prepared by external consultants and assistance from large number of institutions, schools and individuals. The core team of authors has been composed of Mr. Ray Harris, Evaluation Leader, Mr. Gerard Peart, Researcher, who managed the evaluation process, developed evaluation outline, led the work of national evaluation partners, participated in development of evaluation instruments and prepared this report. Their expertise and commitment ensured the high quality of this report.

Contributions to the Evaluative Review have been made by project coordinators in model schools, Active Learning trainers, and teachers in Serbia and Montenegro who provided all necessary information on practical implementation of Active Learning, shared their experiences, class scenarios and reports, participated at meetings, facilitated field assessments and reviewed interim reports.

The Evaluative Review has benefited from the help and comments of the Ministry of Education and Science and Sports of the Republic of Serbia and the Ministry of Education and Science of Montenegro that participated in all phases of the evaluation, commented on the evaluation framework, reviewed interim reports, particularly from the point of view of education reform and supported the smooth running of field assessment, school visits and surveys. Special thanks go to Ms. Tuende Kovacs Cerović and Mr. Radovan Damjanović, Deputy Ministers of Education in Serbia and Montenegro for their full support and contribution throughout the evaluation process. Warm thanks to Ms. Slavka Gvoždenović project coordinator for Montenegro, who supported evaluation process in Montenegro. The Evaluative Review could not be produced without the participation of the Serbian Centre for Education who developed the instrumentation, managed field assessment and testing of teachers and provided report on impact of Active Learning on teachers and learning process. We thank Mr. Aleksandar Baucal and Ms. Dragica Pavlović, Ms. Emina Hebib, Ms. Natasa Matović, Mr. Dejan Velimirović and their research team, as well as Centre for Teachers’ Professional Development, Ms. Snežana Klašnja and Ms. Mirjana Trkulja with their team who provided valuable comments and information regarding the system of professional development and promotion and commented on the evaluation framework and interim reports.

Individuals form the Belgrade G17 Institute research team must also be thanked for their assistance, Ms. Miroslava Dinkić, Ms. Marija Vukotić, Ms. Jelena Momčilović, Mr. Dragoljub Đurić who provided data and analysis of project costing and supported part of the report on system of funding of education in Serbia.

Thanks go to Mr. Ivan Ivić, Ms. Ana Pešikan and Ms. Slobodanka Janković from the Institute for Psychology of Belgrade University Department for Psychology who were also the main implementing partners and Mr. Ratko Jankov of the Faculty of Chemistry who kindly provided all necessary information on project concept and implementation, participants and management over the last ten years.

The smooth realization of the evaluation was ensured by UNICEF staff in Belgrade and Podgorica Offices, Ms. Ann-Lis Svensson, Ms. Mary Black, Ms. Branka Kovačević, Mr. Slobodan Vapa and Ms. Svetlana Marojević.
Without the expertise and commitment of the professionals listed above, the many others who were involved in carrying out the field work and stakeholders interviewed - principals, school teachers, parents and students – this report could not have been produced.
EXECUTIVE SUMMARY

Purpose and objectives of the evaluative review of the active learning project

This is an evaluative review of the Active Learning project in the Republics of Serbia and of Montenegro. Commissioned by UNICEF and the governments of the Republics of Serbia and of Montenegro, it has the following objectives:

1. To assess the concept, implementation and effects of the active learning project, primarily on teachers as key bearers of the education reform process;
2. To evaluate the potential of the project to contribute to a national strategy on quality education for all;
3. To recommend short, medium and long term measures for key stakeholders with respect to teacher training, project implementation, evaluation, funding and the integration of project strategies into the education system.

Scope of the review

- Conceptual issues related to Active Learning/Teaching, including its purpose, core concepts and values, and how these were incorporated in project design.
- Project context: review of the educational systems, contextual constraints and opportunities, and the state of teaching-learning processes.
- Project objectives, strategies and activities.
- Project structures and process, including the roles and responsibilities of project institutions and personnel.
- Impact on teachers, trainers and students.

Background to the project

The project is a cooperative venture undertaken by UNICEF, the Governments of the Republics of Serbia and of Montenegro, and the Institute of Psychology at the University of Belgrade. The project has focused on training teachers to change teaching-learning practices to foster active learning and in that way improve the quality of teaching-learning processes. It trains teachers to elaborate and execute a scenario, a well thought-out lesson plan that is designed to get students to engage with the subject matter as active learners. It also trains teachers in sequential analysis, a technique for analysing how well executed scenarios meet their learning objectives and foster active learning.

Active learning provides teachers with two main training seminars, a three-day basic seminar and a two-day supervision seminar. In between the seminars, the teacher is expected to develop and deliver at least one scenario, and should receive some feedback from project trainers on the scenario. Training is generally delivered at 25 Regional Co-ordination Centres established by the project. These Centres also function as resource centres where teachers can meet to discuss and plan Active Learning activities.

The project has experienced two distinct phases. The period from 1995-2000 was predominantly a development phase, during which the training package was developed, the Active Learning manual (1st edition) was written, and publish in 8,000 copies, and training proceeded in fits and starts, covering roughly 2,500 teachers. This was a difficult but seminal phase, particularly in the Republic of Serbia. It was a time of severe economic crisis and regional war, and
the education system was becoming heavily centralized and politicized. Relations with the Ministry of Education were at times awkward, and it was challenging to keep Regional Centres operating continuously. There was a strong need for educational reform, not least to alleviate the curriculum, introduce flexible scheduling, improve teaching-learning practices, provide materials, revise textbooks and exams, decentralise decision-making and raise salaries. The UNICEF education programme and the Active Learning Project focused on changing teaching-learning practices rather than address broader policy issues, a decision that has with time been shown to be a wise one. The political environment was not favourable towards educational reform, yet there were opportunities to encourage more active learning that would not only directly benefit children but also help to lay the foundations for later reforms. The project’s focus on an area of key importance and the quality of its activities enabled it to attract numerous talented people committed to promoting active learning, who later went on to occupy positions of influence in the Ministry of Education.

The period since 2000 has been altogether different. A new government came to power in the Republic of Serbia, and officials in the Ministry of Education embarked on a reform that shared the aims of the project. Main elements of the reform include:

- Orientation towards outcomes – results of education and their transfer value for further education and life.
- Changes in the way of teaching and learning (instead of reproductive learning – learning how to think, analyse, communicate, solve problems, which will enable inclusion into the world of labour or further education).
- Flexibility of the curricula and compatibility with own experiences, needs of the local community, and interests of the child.
- Inclusion of marginalized groups.

In this second phase, the project has been very favourably seen by the Ministries of Education in the Republics of Serbia and Montenegro, which encouraged teachers to follow the Active Learning training. This resulted in a dramatic increase in project training activities. Over 16 thousand participants have been through the basic seminar since 2000, with training taking place on average in municipalities with a below-average per capita GDP. The Active Learning manual was also revised, incorporating many suggestions of teachers based on the actual practice of active learning, and published in 10,000 copies.

**Main findings**

According to high-level officials in both Republics, the project has exerted an important influence on the reform process. The aims of the reforms in terms of teaching-learning processes and student outcomes incorporate those of the Active Learning project. The curricular reform training in both Republics has incorporated elements of the Active Learning training package. The regulations governing professional development and pedagogical supervision include essential elements of active learning, and in the Republic of Serbia the Active Learning training package is both accredited and recommended by the MoES.

The impact of the project goes beyond policy. A significant number of pedagogical advisers and inspectors have been trained in active learning, initiating a change in culture of the inspection and advisory services. Further, approximately 15% of all elementary teachers in the Republic of Serbia, and 56% in the Republic of Montenegro, have been fully trained by the project. If one includes those teachers who have received the first part of the Active Learning training package, then approximately 30% of all teachers have been trained by the project. Grade One teachers who have been through the Active Learning training are more receptive to change, are more favourable towards implementing reform measures (such as flexible scheduling and descriptive marking), and find the curricular reform training more applicable to their own context. There is also evidence that they are more successful in implementing the reforms. These suggest that the Active Learning (AL) training improves the return on investments in reform and increases the likelihood of its success.

Project trainers rate their own training and apprenticeship highly, though would like more support from the project team. There are currently 106 trainers. Only 30 of them are
qualified to conduct the supervision seminar, and this contributes to a delay in teachers making the transition from the basic to supervision seminars. There are also insufficient trainers with teaching experience (as many of them are drawn from the ranks of school pedagogues and psychologists), particularly at the subject level.

Teachers are strongly motivated to attend the AL training by the desire to improve their professional skills and work with colleagues. They rate the quality and applicability of the AL training highly, as well as the professionalism, skills and helpfulness of the trainers. In particular, the modules on teaching activities, teaching-learning methods and group work are most appreciated as applicable at the basic seminar, while at the supervision seminar sequential analysis is highly appreciated. Areas where the training content and delivery can be improved include formative assessment, managing active learning in current conditions, and cooperative group work. The training materials are also rated positively by participants, though less so than other aspects of training. The main training material is the Active Learning manual. In its current form, it serves as a training material both for trainers and teachers, and as a result can be difficult for teachers to use. The applicability of the training is rated much lower by teachers who teach in classes with large numbers of Roma children, and there is a consequent need to adapt the training programme for these teachers to respond to their particular needs. There is a similar need for multigrade teachers. In all areas, participants call for the training to have a more practical orientation with examples of real practice.

In the Republic of Serbia, approximately one quarter of teachers who go through the basic seminar have to wait more than a year before attending the supervision seminar, due to the low number of trainers; this proportion is likely to deteriorate in 2004. This delay undermines the effectiveness of the basic training, and represents an inefficient use of project resources.

Teachers receive approximately one visit from project staff after the basic seminar, and 1.6 visits after the supervision seminar. This is highly appreciated by teachers, though it is insufficient, particularly after the basic seminar when teachers are first trialling active learning. Trainers are constrained from carrying out this important activity by time and cost, as it is done on a voluntary basis. The major source of support for teachers after training is their colleagues, and this is an area of rich opportunity in the future for ensuring the sustainability of Active Learning. If teacher networks are not developed, based upon a critical mass of teachers trained in Active learning, the benefits of the project risk being diminished, if not short-lived. In the Republic of Serbia, teachers do not feel they receive enough such support, and are concerned about its quality. In the Republic of Montenegro, there is a higher level of reported support from colleagues, both in terms of quality and quantity. This is probably the effect of having achieved a critical mass: project training has covered a greater proportion of teachers, including all class teachers (Grades One to Three), as well as all pedagogical advisers/inspectors.

This review found that teachers report at least partial application of active learning in 66% of classes, and full application in 30% of classes. They are encouraged to do so by the positive student reaction to the changes in teaching-learning practice; and by the improved quality of their students’ knowledge, which teachers think is clearer, longer-lasting and more transferable. They report improved creativity, group work questioning and critical thinking among their students, as well as better student-teacher relations and school atmosphere.

While commonly report some form of lesson preparation for active learning classes, they report using a scenario designed according to project norms (either prepared by themselves or a colleague) only in 2.5% of classes. Teachers in Montenegro report a greater use of scenarios designed by a colleague, which reflects the greater availability of scenarios there. Teachers who apply sequential analysis rate it highly useful, but on average have used it only 1.5 times in the past year.

The teachers’ confidence to apply active learning increases as they go from basic to supervision training, as does their reported levels of application and use of sequential analysis. This underlines the need to improve the timely transition from the basic to the supervision seminar.
The main constraints on applying active learning are the lack of teaching-learning materials and preparation time, with each scenario taking on average 1.5 – 2 hours to prepare. Other constraints include textbooks, the size and organization of the current curriculum and, in some schools, the lack of support from the head-teacher and other colleagues. The lack of time is also reported as the major constraint in applying sequential analysis. An important underlying constraint on all active learning activities is teacher salaries, which are too low to enable teachers to devote themselves properly to their preparation work.

It costs USD 47.84 per teacher in direct cash costs to provide the basic and supervision seminars. This compares favourably with other training, including those of the Ministries of Education. Overall project costs have been shared between the government, the Institute of Psychology (where the project team is based), and UNICEF. The government has enabled the participation of teachers, pedagogical advisers/inspectors and other staff, and the use of public buildings. Numerous teachers and advisers have contributed substantial amounts of their time, including the Regional Resource Co-ordinators. The project team has contributed substantial time to the development of the training package, as well as to providing technical assistance to Co-ordinators and trainers. UNICEF has provided financial assistance to facilitate training and to supply material and equipment to the Regional Co-ordination Centres and other schools. It would cost approximately one million USD (current) to cover the direct cash costs of training the remaining teachers in the Republic of Serbia and Republic of Montenegro.

Professional development is at a critical juncture in terms of the organization and financing, and this will have an impact on the future of the project. In the Republic of Serbia, teachers are obliged to devote three days per year to professional development, and with their schools can choose from a list of accredited courses for in-service training. The newly established Centre for Professional Development (triauling) in the Republic of Serbia plans to have regional training centres which will host accredited service providers, and the first one (of twelve) is planned to open late in 2004. However, it will be some time before the other centres open and operate smoothly, and there is consequently a concern as to how to ensure the availability of accredited training courses. Further, the new law on education gives responsibility for financing certain aspects of elementary education, including professional development, to the municipalities. The old rulebook defining spending norms has yet to be updated, and in its current form allows municipalities to fund professional development at their discretion in an amount equivalent to up to one per cent of gross salaries. At current salary levels, this amounts to 86% of the recurrent cash costs of the AL training. In practice, some municipalities do not fund education according to rulebook norms, the poorer municipalities spend less per student on education, and one can anticipate that there will be difficulty ensuring the financing of in-service training for teachers.

In the Republic of Montenegro, in-service training is the responsibility of the Centre for General Education, which decides what in-service training teachers are to receive, and also designs and delivers in-service training packages. Until now, the Ministry has not funded the recurrent cash costs of Active Learning training.

In terms of project planning, management and monitoring, key process and outcome indicators have not yet been defined for teaching-learning processes and learning outcomes, nor have the tools and processes for gathering this data been elaborated. A definitive evaluation of this project awaits in particular objective evidence as to actual active learning processes and improved learning outcomes.

Lessons learned

The project is appreciated by government and teachers because it has worked directly with thousands of teachers to improve teaching-learning practices, facilitated the government’s reforms, and succeeded in making a practical difference to children’s lives. Achieving this has been predicated upon a particular mix of project elements, which include:

1. An extensive field presence. The project has extensive and continuous contact with education professionals and public officials across the country. These relations are the project’s deep roots, for which there is no substitute when it comes to making a project work effectively.
2. The supplies. The training and teaching-learning materials provided to the Regional Centres and some schools have addressed a key constraint, testified to the project’s commitment, and been highly appreciated by partners.

3. A network of expertise. The project’s technical content has been developed by national experts.

4. Partnerships. The project has brought together different partners to work effectively, including government, University staff, pedagogical inspectors and advisers, head-teachers and teachers.

### Review methodology

The review was carried out during the period December 2002 – March 2004, and was led by a team of two external evaluators. It included a desk review; data collection by means of open and structured questionnaires, interviews, and focus discussions with co-ordinators, head-teachers, teachers, parents and students, and education authorities; as well as field visits and case studies. A national sample of 1500 teachers, trainers and inspectors completed questionnaires. Case studies of selected schools were undertaken to assist in questionnaire design and subsequently to corroborate data collected through questionnaires.

Three missions to Serbia and Montenegro were undertaken by the external team. Instrument design, testing, data collection and reporting on the results of data collection were undertaken by the newly created National Centre for Evaluation. The Belgrade-based Institute G17 Institute conducted research on financial and policy reform issues related to the project. The review was carried out in consultation with the Republican Ministries of Education. Support for all activities in relation to the review was provided by the Institute of Psychology (Belgrade) and UNICEF offices in Belgrade and Podgorica. This report was drafted by the external reviewers, Ray Harris (Sections B-G) and Gerard Peart (A and H-L).

### Main recommendations

This report provides details of the main findings and conclusions. The following table of recommendations arises from these findings and from discussions with stakeholders.
## Active learning evaluative review – main recommendations

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<td><strong>Ministry of Education and Sports - Republic of Serbia (MoES)</strong></td>
<td><strong>Develop effective networks. Support development of pilot teachers networks focused on implementation of AL. Networking of projects contributing to teachers’ professional development.</strong></td>
<td><strong>Initiate steps to incorporate teaching of active learning into teacher training faculties (pre-service training).</strong></td>
<td><strong>Develop public education campaign for parents/families. Officially recognise and reward networking within the system of permanent professional development.</strong></td>
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<td><strong>Ensure all head -teachers have received an orientation on AL, and preferably have attended basic and supervision seminars.</strong></td>
<td><strong>MoES/ Centre for Teachers Professional Development to consult with AL trainers and refer to training modules when developing curricular reform training.</strong></td>
<td><strong>Develop system to monitor project implementation to ensure it is harmonized with standards and requirements for accreditation. Liaise with AL Project team to meet needs identified training.</strong></td>
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<td><strong>Determine actual spending by municipalities for teacher in-service training. Remove discretionary element in rulebook with respect to municipal spending on teacher in-service training.</strong></td>
<td><strong>MoES/ CTPD to ensure all teachers who have been trained to basic level of AL to complete training to supervision level on a timely basis; and to ensure all pedagogical advisers/ supervisors and head teachers have received some AL training.</strong></td>
<td><strong>MoES/ CTPD to ensure all subject teachers are trained in AL.</strong></td>
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<td><strong>Harmonize reform training with the Active Learning training and (to build up on AL in the reform training and use AL trainers) Formalise the status of trainers, co-ordinators and supervisors in providing post training support (incorporate in their ToR in terms of allocation of working hours, status and salary).</strong></td>
<td><strong>Integrate class preparation and reflection and analysis of classes in teachers working hours and ensure professional support (Formalise time allocation).</strong></td>
<td><strong>Ensure follow-up support in AL to teachers who have been trained in AL, using teachers trainers and supervisors within the system (include school supervisors, and Centre for professional development).</strong></td>
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<td><strong>Centre for Teachers Professional Development (CTPD)</strong></td>
<td><strong>Be involved in programme development and monitoring. Use AL trainers to deliver reform training.</strong></td>
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<td><strong>Ministry of Education and Science - Republic of Montenegro MoES(M)</strong></td>
<td><strong>CGE should use AL trainers to deliver reform training.</strong></td>
<td><strong>CGE should consult AL training modules when developing curricular reform training.</strong></td>
<td><strong>CGE should plan to ensure all subject teachers are trained in AL.</strong></td>
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<td><strong>Create database on teachers’ professional development. Networking of projects contributing to teachers’ professional development.</strong></td>
<td><strong>CGE to ensure all pedagogical advisers/ supervisors and head teachers receive some AL training.</strong></td>
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<td><strong>Reward system for teachers implementing AL should be developed.</strong></td>
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<td><strong>AL Project Team</strong></td>
<td><strong>Raise number of supervision seminar trainers by increasing opportunities for supervision seminar trainer-apprentices. Reduce number of basic seminars in 2004, and use trainers to do supervision seminars instead.</strong></td>
<td><strong>Revise training materials to make them more user friendly and incorporate more practical examples. Develop separate manuals, one for trainers and one for teachers.</strong></td>
<td><strong>Take on dedicated staff member for programme planning and fund raising.</strong></td>
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<td><strong>Take on dedicated staff to develop Multigrade module; to develop Roma module; and to develop pilot teacher networks.</strong></td>
<td><strong>Develop Training material components focused on parents’ involvement and cooperation.</strong></td>
<td><strong>Train trainers on management of cooperative group work.</strong></td>
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<td><strong>Project team to clarify their institutional identity, to ensure sustainability.</strong></td>
<td><strong>Project team to explore fund raising for specific research and development priorities.</strong></td>
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<td>Support training of all teachers in active learning approaches. Some teachers will go on externally provided courses and some will be supported by experienced school staff by attending school based workshops. Monitor initiatives by teachers and effects on children’s learning.</td>
<td>Through collaborative work on new reforms (such as new locally based curricular) develop whole school approaches to active learning and increased participation of children.</td>
<td>Explore a range of strategies for school self-evaluation based on a participatory model (so as to work more effectively with parents and wider community).</td>
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<td>Consolidate time in school work plan for class analysis, reflection on the classes, mutual visiting and observation of classes of other teachers, planning team.</td>
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<td>Focus its financial support for training, support and network development on disadvantaged groups/underdeveloped areas.</td>
<td>Investigate possibilities for municipalities to raise funds locally to finance in-service training (perhaps fund a case study). Support pilot initiative to test regional CPD training centre as a conduit for AL training.</td>
<td>Support the MoEs, in developing the M&amp;E system within AL and other projects helping to implement reform of education.</td>
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<td>Use results of review and positive achievements of AL to promote principles of child centred pedagogy and active learning/teaching in professional circles, public, parents.</td>
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<td>Support the MoEs in developing more inclusive education by using results and experience of AL.</td>
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<tr>
<td>Advocate with the MoEs that all subject teachers be trained in AL.</td>
<td>Investigate use of distance learning as an option for providing post-training support to teachers.</td>
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<tr>
<th>National Education Evaluation Centre</th>
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<tbody>
<tr>
<td>External examinations should also measure the higher-order learning skills fostered by active learning (need to pilot new assessment methods).</td>
<td>Measure teaching-learning processes and learning achievements in active learning classrooms; compare to control sample. Design tools and begin systematic observation and documentation of teaching-learning processes at classroom level.</td>
<td>Continue to measure learning achievements in active learning classrooms and develop new instruments for school self-evaluation.</td>
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<th>UNICEF Regional Office</th>
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<td>Build a regional network of trainers involved in active learning approaches, and enable exchange visits. Explore ways of researching classroom processes.</td>
<td>Develop network of trainers working in post-conflict situations to provide new materials and to link with other regional groups.</td>
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*This Review has been carried out in the period December 2002 - May 2004, before the Law on the Amendments to the Law on the Foundations of the Education System in Serbia in June 2004 was adopted by the Parliament in the Republic of Serbia. Therefore some of the statements in this report which refer to the legislation and education reform in Serbia may not be fully applicable.*
The project began in 1994 during an inauspicious time for the country in general and education in particular. There were violent conflicts developing in Croatia and Bosnia that would eventually lead to a massive influx of displaced persons. Hyperinflation had just devastated the economy. The education system had been heavily centralized in 1990-91, with the abolition of the partial autonomy accorded to educational institutions and the centralization of all financing. The appointment of all school directors became subject to the Minister’s approval, and this led to a heavy politicization of schools.

These factors led to low salaries, the degradation of the schools’ learning environment, and widespread dissatisfaction among teachers and students, with many consequences for the quality of teaching-learning processes. Teachers were no longer able to devote themselves full-time to teaching. Class preparation suffered, as did extracurricular activities. School equipment deteriorated or became outdated, and teaching-learning materials were consumed and not replaced. During the late 1990’s, strikes became common, either outright or in the form of shortened classes.
Several decisions were taken that negatively affected in-service professional development. The regional Pedagogical Institutes were abolished; these institutes had provided in-service teacher training and supportive pedagogical supervision and were also centres for innovation in new teaching-learning practices. In their place, the Ministry itself directly assumed responsibilities for in-service teacher training, but in effect offered little or nothing. Changes in legislation released teachers from the obligation to attend professional development courses.

The role of the pedagogical inspection service was transformed. No longer offering pedagogical advice or support, it focused on a strict policing of curriculum delivery and the respect of other administrative regulations.

The project authors were well aware of the numerous constraints on the educational system. They concluded that little was to be done in terms of the policy environment, the curriculum or educational resources; an authoritarian government was firmly entrenched, and the economic situation was poor and deteriorating. On the other hand, there was room and need to reform teaching practices. These were thought often to be based on ex cathedra lecturing methods, delivered in a somewhat severe manner and atmosphere. The project authors also reasoned that, despite the numerous constraints under which teachers worked, there was some scope for training teachers, providing them with a forum in which to discuss professional improvement, and appealing to their professionalism for motivation.

During this period, the Active Learning Project worked to develop and introduce an innovative “approach to learning/teaching in schools ... in order to change the methods of learning/teaching ... so as to empower children with relevant knowledge and skills for their future professional and private lives ...” The project’s objectives were stated as follows (as taken from the project’s website):

1. “Improvement of the quality of knowledge and skills that children acquire at school.”
2. “Change of position of a child in school from the role of knowledge receptor to the role of active, participating designer of own knowledge.”
The project’s main strategy was to build teaching-learning processes in particular, and the teacher capacities through training and post-training support. Training was underpinned by the education system in general. As to the latter, the project served as one of the fora where one teaching-learning processes in particular, and the could discuss, elaborate and, in parts, practice education system in general. As to the latter, one’s opposition to the centralising, authoritarian the project served as one of the fora where one and highly political educational policies and could discuss, elaborate and, in parts, practice administration; it constituted a kind of think-tank and laboratory where possible elements of future reforms could be developed and tested. This was no small accomplishment. Many of the persons involved at this phase later emerged as key players in the reform process in the Republic of Serbia.

The project is currently in a second phase, beginning in 2000, the year in which a new democratic regime was installed in the Republic of Serbia with a government committed to educational reform. The government moved quickly to analyse the state of the education system, using internal and external reviews (including those by UNICEF, the World Bank and the OECD). This was followed up by several consultative exercises. These resulted in a number of proposed reforms in 2002, and a new law on education in 2003.

The aims of the reforms in the Republic of Serbia (as in Republic of Montenegro) include those of the Active Learning project, that is, to improve the quality of knowledge and skills that children acquire at school, and to change the child’s role from a passive learner into an active participating designer in the construction of his/her knowledge and skills. The main strategies of the project – training teachers, ensuring follow-up support and providing some teaching-learning materials – are also among those recommended and used by the Ministries in Serbia and Montenegro. A full examination of how the project fits in with the reforms in both the Republic of Serbia and Republic of Montenegro, can be found in Section H.

The objectives and strategies also fit in well with the Convention on the Rights of the Child, the demographic imperative, and the governments’ strategies to combat poverty.

*The Convention on the Rights of the Child (CRC)*.

The Republics of Serbia and of Montenegro both adhere to the CRC. Article 28 stipulates that States Parties recognise the right of the child to education, including making primary education compulsory and available and free to all. Article
29 stipulates that the education of the child shall inter alia be directed to the development of the child’s personality, talents and mental and physical abilities to their fullest potential; and to the preparation of the child for responsible life in a free society. The Active Learning project is particularly relevant to Article 29. In so far as the project strives to improve the quality of knowledge and skills that children acquire at school, and to increase the child’s role as an active and responsible agent in the construction of his/her knowledge, the project contributes to the fulfilment of both these clauses of Article 29.

The demographic imperative. The Republic of Serbia and Republic of Montenegro have low fertility rates, and the population is consequently ageing. The demands on the employed to provide for the young, the unemployed and the retired will increase with time, and it is therefore imperative that the employed be highly productive and that unemployment levels be kept low. Improving the quality of knowledge acquired in schools, including the permanence and transferability of knowledge, as the Active Learning project aims to do, is a contribution to these imperatives.

Poverty Reduction Strategy Papers for Serbia and Montenegro (PRSP). According to the PRSPs, the strategic contribution of education to poverty reduction is twofold. First, it increases the opportunity for high quality employment through an improved level of education of the population by gaining higher and more suitable qualifications. Second, it increases the efficiency of the education sector through:

- greater effectiveness of teaching, by achieving higher quality of education. For that it is necessary to develop a system which will ensure teaching quality, a system of professional development for teachers and a reconstructed curriculum which will be focused on acquiring lasting and transferable knowledge and skills;
- strengthening the role of parents and students; and
- proper equipping of schools.
The Active Learning project contributes particularly to increasing system efficiency, as it aims to improve the effectiveness of teachers and strengthen the student’s role as learner; and it has also supplied teaching-learning materials to a certain number of schools.

During this second phase, the openness of the Serbian government and the compatibility of the project’s aims and strategies with the reforms in both Republics enabled the project to organise more seminars, and encouraged teachers to think once more about professional development. The number of persons attending project seminars in Serbia went from 305 in 1999 to over 2,400 in each of 2000 and 2001. Then in 2002 new regulations concerning professional development were published in Serbia, by which teachers are obliged to undergo at least 100 hours of accredited professional development programmes every 5 years in order to advance professionally. The government also published a list of accredited courses that teachers might take as part of their professional development; of these, it recommended seven in particular, including Active Learning. Participants jumped in 2002 to over 10,000.

The project has also provided numerous seminars to other key personnel in education. These include over 1,600 consultative and promotional seminars for head teachers and educational authorities, and nearly 300 seminars for school inspectors. (Table A.1). In the Republic of Montenegro, all pedagogical inspectors have been trained. These seminars have helped to give the project widespread exposure, ensuring that the support the project receives at central level is complemented at a local level. As will be amplified in later sections, widespread exposure is important for the project’s success, as it ensures not only that teachers have teaching colleagues whom they can consult for support, but also that they receive support from the school and local education administration.

Respondents rated the benefits to students:

2. Continued centralisation and politisation of educational system. Conflict in Bosnia, Croatia and Kosovo and Metohija. Large numbers of displaced persons. NATO bombing.
Table A.1 - Number and type of seminars, in the Republic of Serbia

<table>
<thead>
<tr>
<th>Year</th>
<th>SA</th>
<th>BZ</th>
<th>BZS</th>
<th>SV</th>
<th>SVS</th>
<th>KON</th>
<th>PROMO</th>
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<th>EVAL</th>
<th>NAD</th>
<th>DIDA</th>
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<td>2000</td>
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<td>27</td>
<td>9</td>
<td>2</td>
<td>4</td>
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<td>970</td>
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</table>

Notes: each seminar has approximately 30 participants. SA: 5 day basic + supervision seminar; BZ: basic seminar; BZS: subject basic seminar; SV: supervision seminar; SVS: subject supervision seminar; KON: consultative seminar; PROMO: promotion seminar; INS: instructor seminar; EVAL: evaluation seminar; NAD: inspector seminar; DIDA: didactic analysis seminar.

Concluding Remarks

The Active Learning project was designed to address passive teaching-learning processes in elementary school classrooms, a critical constraint of the Republic of Serbia and Republic of Montenegro education systems. It began at a difficult time, and during its first phase 1995-2000 focused on developing the Active Learning manual, a teacher-training course, and establishing a network of regional centres. Hampered by civil, political and economic constraints, it nonetheless managed to train approximately 2,500 teachers. It also attracted numerous talented persons who would later go on to assume important positions in the reform process.

This process began in 2000, the beginning of the project’s second phase. The aims and strategies of the Active Learning project are in harmony with the education reforms in the Republic of Serbia and Republic of Montenegro. The project also supports the CRC, which has been signed by both Republics, as well as their Poverty Reduction Strategies. It further helps to address some of the key concerns of the Republics’ aging populations. Authorities in both Republics have encouraged teachers to undergo the Active Learning training, in recognition of the training’s quality and the fact that it addresses a key area of concern. As a result, over 16,000 teachers have initiated the Active Learning training during this second phase. Numerous educational authorities, including inspectors, have also been trained, and this has helped to create a supportive environment for the project.
SECTION B

ACTIVE LEARNING AS A PEDAGOGICAL APPROACH

As the title of the project suggests, the main focus of the project is to develop and implement active learning approaches in schools. First we need to define active learning.

B.1 Defining active learning

Active learning has been subject to a wide variety of definitions where it has been used in different countries, and there is still some debate about whether we should even define learning as being active or passive.

“Surprisingly, educators’ use of the term “active learning” has relied more on intuitive understanding than a common definition. Consequently, many assert that all learning is inherently active and that students are therefore actively involved while listening to formal presentations in the classroom. Analysis of the research literature, however, suggests that students must do more than just listen: They must read, write, discuss, or be engaged in solving problems. Most important, to be actively involved, students must engage in such higher-order thinking tasks as analysis, synthesis, and evaluation. Within this context, it is proposed that strategies promoting active learning be defined as instructional activities involving students in doing things and thinking about what they are doing.” ¹

The project team identifies a number of definitions for active learning approaches which illustrate the complexity and comprehensiveness of these approaches:

“Active learning is a process in which a student learns through his own experience (e.g. solving problems) with the help of the teacher.” (Here we are assuming some control over learning by the student).

“Active Learning is a work method tending to engage as many children as possible to spend as much time as possible in activities devised for children”. (This assumes that teachers will plan activities).

“A way to improve the position of the child in the school.” (This demands a change in the culture of the school).

“Active Learning is learning through participation.” (A key component for ensuring children’s rights).

“Active learning encourages a student to be independent and take initiative and ask questions in order to acquire knowledge that is long lasting and applicable to daily life.” (This relates to the culture of the school and in some ways the relationship of the school to the local community).

“Active learning is not only the adoption of a school curriculum, but also the fruitful development of the personality of each child.” (This demands tailoring of learning opportunities to each child).

“The Active learning/teaching program has the long term goal of changing the methods of teaching/learning in our schools, so that children are better equipped with relevant knowledge and skills for their future professional and private life, which will take place in significantly altered socioeconomic circumstances.”

What is interesting about this last description of the project’s goal, is the notion of children’s future lives, and the idea of altered socioeconomic circumstances. It is rare to find a programme that deals with education for the future rather than education for the present, and a realisation that the future may have a different landscape and therefore may need a different map. The Active Learning Project has been attempting to re-draw the map for teachers in Serbia and Montenegro.

From the Active Learning Project definitions it is clear that the authors of the project have encompassed much of what is considered “modern education” such as:

Teachers awareness of student’s prior learning.
The teachers’ role as facilitator not as “transmitter of knowledge”.
The many roles of the teacher and the improved position in the school of the student.
A specific focus on students’ learning.
A constructivist approach to learning.
Considering higher learning objectives, such as problem solving.
The engagement of all students (considering classes of mixed abilities and mixed knowledge).
Increasing the level of participation of students in their learning.
Allowing some decision making on behalf of students.
Encouraging cooperation and the development of skills of conflict management.
Activity based learning – planning what the students will actually do during a lesson.
Focus on lesson planning i.e. scenario writing.
Encouraging some form of post-lesson analysis followed by adaptation/improvement (in this context: Sequential analysis).
Teachers collaborating together as part of their professional development.
Teachers and students as partners in learning.

The adoption by the Active Learning Project of a more modern approach to teaching and learning has helped steer the way for educational reforms in Serbia and Montenegro which are now being implemented. For real education reform the focus has to be on the active participation of teachers, as cited by Craig, Kraft and du Plessis:

When teachers are actively involved and empowered in the reform of their own schools, curriculum, pedagogy and classrooms, even those with minimal levels of formal education and training are capable of dramatically changing their teaching behaviour, the classroom environment and improving the achievement of their students.  

2

The Project recognises that this empowerment of teachers has to be within a changing and supportive school culture:

Instead of the transmission school, which only conveys the knowledge from certain subjects, leaving the student in the role of a passive recipient, we need a new active school, which sees the student as an active participant. This means, on the one hand, that the attitude toward the child in our school has to change fundamentally.  

3

For the Active Learning Project, the site for learning, the school, with its own culture, norms, rules and practices is the environment for change, with the teacher taking on the role as main change agent within the classroom. This has also been the approach for implementing education reforms in Serbia, as the often used “top-down” approach to reform has been balanced by a bottom-up, demand-led reform process. The Ministry of Education of Serbia expressly commits teachers to be the “nuclei of change”.  

4

At school level, the head teacher is the director/creator of the school culture. The Project team understand about the need for a supportive and change-orientated culture at the school, but there needs to be a more directed approach to planning for whole school involvement, as many teachers are still situated on the “edge of change”. To this end, it is recommended that all head teachers should be trained in Active Learning approaches.

What is admirable about the Active Learning Project is the comprehensive nature of the description of active learning which includes the nature of the activities which students are engaged in, the structure of the curriculum, the skills of the teacher and the conditions for learning.

2 (p.xi Teacher development, making an impact. World Bank 1998)
“Essentially, in this kind of learning, the acquisition of knowledge is not the primary goal, but the development of skills, methods, and techniques for facing and solving the problems. Moreover, the goals of this instructional method are encouragement of the student initiative, and the formation of an attitude that the majority of situations facing the children in school and life are problem situations, which shouldn’t give rise to fear, but active involvement. It should be emphasized that by practising problem solving, the independence in performing intellectual tasks is developed.”

One of the aims of the active learning approach is an increased democratization of the learning process at classroom level, which again fits with the plans for reform at national level. Increased participation of students along with more decision making by teachers will ensure this process is successful.

The review team can commend the authors for providing a comprehensive platform on which to base an implementation programme for active learning and to be aware of some of the barriers to effective implementation. Given the social and economic conditions prevailing at the start of the project (1995) it is remarkable that many teachers have been able to commit themselves to the philosophy of Active Learning and to work hard at trying to implement it. The main achievements for the Active Learning Project, during the last 9 years, are outlined below and during this review we try to assess what impacts these achievements have had on the education system in Serbia and Montenegro.

Much of the data about the effects on teachers and students used in this review was collected and analysed by the newly formed Serbian Centre for Evaluation during the period of the evaluative review. ⁵

**B.2 Main achievements of Active Learning Project**

Results of the research undertaken by CE suggest that in active learning classrooms there has been an improved relationship between teachers and students, a more cooperative classroom atmosphere, knowledge is better understood by students, and teachers are more willing to plan their lessons and critically assess their lesson planning and implementation. These are considerable achievements given the context in which the project began.

Other main achievements of the project are listed below:

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<tr>
<th>Achievement</th>
<th>Description</th>
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<tr>
<td>1. Development of a programme of in-service training for teachers.</td>
<td>3-day basic training seminars for applying active methods. 1 or 2 day Supervision seminars which follows the basic seminar and at least three months of AL implementation. About 25,000 teachers have been trained at various levels.</td>
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<tr>
<td>2. Development of programme of training of trainers.</td>
<td>Training for selected teachers, school pedagogues, psychologists and inspectors. 106 trainers trained for basic 30 for supervision level.</td>
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<td>3. Development of model schools network (in Serbia).</td>
<td>25 Regional centres for implementation, development and promotion of active learning. In these schools, motivated teachers elaborate and implement active methods in their classrooms. Co-ordinators and trainers collaborate to support and encourage other schools in their regions to implement active learning.</td>
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<tr>
<td>4. Development of specific method for analysing lessons, sequential analysis (SEQA).</td>
<td>This is a specific way of detailed and objective analysis of the class, relevance of students activity and teachers role. The sequential analysis is done by teachers and is used as a tool for improving practice.</td>
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<tr>
<td>5. Development of Active Learning manual.</td>
<td>This manual describes the basic concept of AL, explains theoretical framework and presents practical experiences of the application of the AL in school. 10,000 copies of 2nd edition of the Active Learning Project manual printed and distributed. Development of subject-specific modules for science teaching and seminars for science teachers.</td>
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<tr>
<td>7. Provision of teaching aids and audio-visual equipment to model schools.</td>
<td>Hundreds of class models/ teaching scenarios have been developed. Selected data base of some 200 scenarios have been created. Montenegro made available collection of scenarios to participating teachers. Many classes of different subjects in different schools have been video recorded. 25 model schools have been established throughout Serbia. 10 AL training centres identified in Montenegro.</td>
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**B.3 The Active Learning Manual**

The summary of the philosophy, theoretical base, implementation strategies and guidance for both teachers and trainers appears in the Active Learning manual.

In fact, given the social, political and economic conditions at the time, the development and publishing of a comprehensive manual for teachers and trainers was an excellent achievement.


6 Published by the UNICEF, Ministry of Education of Serbia, Ministry of Education and Science of Montenegro and The Institute of Psychology, Belgrade.
In January 2002, the *Active Learning 2* Manual was launched with an initial print run of 10,000 copies. So far, the manual has been produced in the Serbian language and translated into English and Georgian languages (for implementation of active learning approaches in Georgia). An attempt has been made to translate into Albanian but this has not been completed as of March 2004.

The second edition of the manual includes the following chapters:

**Part I: Training of teachers for implementation of active methods of teaching/learning**
- Introduction
- Active Learning
- Structure of educational activity
- Traditional vs. new active school
- Teaching/ Learning methods
- Most common misconceptions on active school
- Role of teachers
- Inventory of teacher’s roles
- Procedures for activation of students in class
- Scenario for AL seminar

**Part II: Practical implementation of active training/learning methods**
- Examples of educational workshops
- Market of ideas for active teaching practice
- Participation of students
- Development and analysis of the draft for active teaching/ learning in practice
- Analysis of activities and roles of children in active teaching.

**Part III: Theoretical section - The nature of activity of students in active teaching**
Teachers and trainers find the manual particularly useful as reference for training and preparing scenarios, and for background reading.

New modules are presently being developed: The module of the manual: *Active Learning Project in teaching the science subjects* is in the elaboration stage.

For the module of the Manual *Active Learning Project in the Primary School* the scenarios for the classes are being compiled.

Presently the manual is aimed at introducing and guiding teachers into active learning approaches.

The second aim for the manual is to be the main training document for use by all trainers/facilitators. At this stage, these two goals need to be separated. It is suggested that two manuals be produced, one for teachers and one for trainers. The teachers manual would include background theory, lesson planning (scenario writing) implementation strategies (including classroom management and organising of group work) lesson analysis (reflective teaching) and working together with colleagues. There would be many examples of scenarios and their analysis for class and subject teachers. It should be reader friendly.

The Trainers manual would include the above, with the addition of detailed guidance for running a basic seminar, supervision seminar, organising and managing scenario planning and sequential analysis in schools, and how to support teachers after the training (including visits to the classroom, teacher observation and networking).

Guidance for working with teachers of different ethnic backgrounds, multigrade teachers, teachers working with children with special needs should also be included.

When the new manuals are produced, they should be translated into appropriate minority languages.

**B.4 Implementation at school level**

Two important components of the practical implementation of AL are scenario writing and sequential analysis. Both of these have demanded much of teachers and both are fundamental to the process of classroom change.

Scenario writing and sequential analysis (SEQA).

The term used for a lesson plan within the project is a scenario. The project authors emphasise the difference by likening the classroom to a stage. For good drama the set has to be designed, movements and dialogue planned, while providing enough space for individual adaptation and improvisation. The scenario is the plan for the lesson but the teacher is aware of all the actors in the drama.
and that the actors themselves may direct part of the scene, when appropriate. This then is the “stage” or environment for active learning.

The Project team expresses the importance of scenario writing in the process of implementation of active learning, thus:

“The scenario creation for the AL lessons is the key part in realization of the project, it is a link between the active learning/teaching ideas and the active learning/teaching practice…” (page 94 AL Manual 2).

Page 95 of the AL manual describes in detail the difference between a standard written lesson plan and an AL scenario, illustrating the fact that there is a change in emphasis from specifying what the teacher should be doing to placing the accent on what the students should be doing. During training (supervision seminar SV1) teachers are asked to make critical but constructive analysis of scenarios using the following parameters:

Key idea of the lesson;
Children’s activities;
Relevance of the activities – to the subject;
Integration of the lesson’s goal and children’s activities;
Correction and elaboration – how the lesson can be improved.

Detailed analysis of a scenario (lesson plan) deals with the activities planned for students. Many teachers find scenario planning and analysis very useful processes yet are concerned by the time needed to undertake these tasks. During discussion and from questionnaire data the average time taken to plan an active learning lesson is between 1½ and 2 hours. This amount of preparation is unrealistic given current conditions.

To maintain the quality of scenarios through self evaluation and evaluation by colleagues, the Project team developed the method called “sequential analysis” (SEGA) which normally uses a video-taped lesson as the basis for group analysis, although observation of “live” classes is also encouraged.

The sequential analysis “consists of a division of a certain entire teaching/learning activity (lesson/

lessons) into the smallest meaningful units called the sequences”. 7

During supervision seminar, termed SV2, teachers are trained to apply sequential analysis to a lesson. During the training, teachers watch a video taped lesson, read a copy of the written scenario and discuss with others about the lesson sequence boundaries. They will note the activities for children and the roles of children in each sequence, the types of teacher interventions, lesson problems and their resolutions.

Training at supervision level varies from being a two-day seminar where both scenario analysis and sequential analysis is covered, to two separate one-day supervision seminars (SV 1 and 2). Teachers find that it is during these analyses that the real essence of active learning is understood.

In Montenegro, observation of classes followed by analysis is the preferred method for undertaking training at supervision level, and often a third day is used specifically for this purpose.

From the evaluations of teachers and trainers’ comments there is common agreement that sequential analysis is an excellent tool to reflect on the process of teaching and learning at classroom level.

“It is a markedly professional instrument, which gives seriousness to the teaching process, the accomplishment of targeted goals and students’ achievements” (trainer from Montenegro).

Teachers select a scenario to send their local instructor so as to get feedback on their plans. However the number of trainers who have reached the level of instructor-supervisor, and who can provide feedback on teachers’ written scenarios is relatively small compared to the increasing number of teachers who want to participate in the AL project. Motivated teachers feel frustrated by the time taken to receive feedback and instructors are concerned about their backlog of scenarios that they have to review. This is one of the “bottlenecks” in the system. It could be “unblocked” by training more supervision level instructors, by better networking, and by using colleagues at school to review, discuss, and adapt scenarios.
“The problem we have encountered is that there are not enough trained Active Learning Project teachers and Active Learning Project instructors at the schools in the region who could be in charge of this necessary and highly expert analysis.”

A further issue is the time needed to undertake the SEQA which is demanding for both teacher and trainer:

“Sequential analysis is necessary but time-consuming; it should only be applied in 20% of cases” (inspector from Montenegro).

The project team feel that teachers are unnecessarily anxious about undertaking the analysis and they have emphasised that SEQA is only a tool for reflection and self evaluation and particularly useful for group analysis during meetings at model schools or active learning centres.

Concluding remarks

The premise on which the Active Learning project is based relates well to present views of “modern education” and for this reason the governments of The Republic of Serbia and the Republic of Montenegro have used the project’s approaches to help modernise the education systems. There have been many achievements of the project including the training of trainers and a large number of teachers in active learning approaches, as well as the development of a network of model schools. Other key achievements have been the development of a comprehensive manual and the introduction of techniques for effective lesson planning, observation and analysis.

In summary the project has been innovative and constructive. The development of the two tools for lesson planning and analysis have shifted teachers’ attitudes considerably towards a more professional approach to their work while at the same time increasing their understanding about student activity, participation and child-friendly approaches.

This has and will continue to have an impact on the quality of education for all children.

8 (2002-2003 AL project report, unpublished)
SECTION C

TRAINING, SUPERVISION AND SUPPORT

The key focus of the project in terms of implementation strategy is the improvement of the skills of teachers. For this to happen the project team has used a cascade training process to train trainers in Serbia and Montenegro, who have in turn been training teachers at a regional level.

C. Training of trainers

A cadre of 106 trainers has been trained by the Active Learning team at the Institute of Psychology. Some trainers are identified by the supervisory and inspectorate services and some potential trainers are identified among trainees during supervision seminars. The selection of potential trainers is undertaken by the AL expert team and representatives from the Ministries of Education, on the recommendation of the regional trainers. Only 30 have completed their training to the level where they can facilitate supervision seminars and give feedback on written scenarios.

New trainers are initially trained during 4/5 day seminars by the Project team. These instructor seminars train the participants in conducting a basic or foundation seminar. Following the training, they are engaged as apprentice trainers in the regional seminars in order to gain practical experience and knowledge to become regular trainers. Apprentice trainers (often called “interns”) can not train teachers on their own but are able to take responsibility for specific sessions within basic seminars. Only when they have had experience of running each of the sessions can they join another trained trainer to take full responsibility for a workshop.9

The basic task of the instructors is the realization of basic seminars, with experience these instructors can attend supervisory training so as to facilitate the supervisory level seminars. The instructor-supervisor seminar, again facilitated by the central team, is a three-day training course to train Active Learning Project instructors to conduct supervisory seminars SV1 and SV2. 6 training seminars have been run to train instructors (to train at basic level), and 7 training seminars have been run to train instructor supervisors (to train at supervision level). There is some loss from the system however due to promotion to Ministry of Education posts.

Theoretically, the process for training of trainers is a good one and covers important elements, such as:

Involvement of the Ministry of Education (and its officers, such as inspectors),

Trainers having a monitoring role as well as a training role (i.e. follow up after a seminar at the teacher’s school).

Apprenticeship first – working alongside experienced trainers, gradually gaining confidence and skills and taking more control.

Teachers only constitute 36.5% of all trainers; with inspectors and assistants (school-based pedagogues and psychologists) making up the majority. As teachers report that the seminars can lack practical teaching examples and subject specific data the review team feel that an increase in the number of trainers with recent teaching experience is recommended. Even trainers state that their initial professional education was not adequate in preparing them for practical teaching contexts.

C.1 Is the training of trainers effective?

Trainers are satisfied with all components of their training and with their internship, in fact most trainers give a very positive rating for the quality of the training for instructors (majority 4/5 out of 5).10

They also regard the process of internship as an important process for developing their confidence and skills as an instructor. The internship is seen by trainees as being very important in the process of preparation for working as an instructor, both

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9 (see Active Learning: Rules on Roles of Project Associates, appendix b, p.107/1).
10 (note: Teachers were asked to rate various aspects of the training on a five point scale)
for gaining confidence and competence. However some interns are frustrated about the low number of supervision seminars that they can be involved in, as this limits the amount of experience that they can gain. This has produced another bottleneck in the system with some regions in Serbia lacking qualified instructors to work at supervision level. Although instructors from other regions are willing to travel to support another region this is not a cost or time effective solution.

One noticeable point is that instructors find that the education workshop session (interactive group work) is difficult to undertake with teachers, yet they rate this the most applicable in terms of new classroom practice. Training for instructors would need to consider this for future training.

It is unfortunate that there is little video-taped evidence of training of trainers sessions, as the review team were unable to observe actual training seminars. However, all evidence gathered so far suggests that the training is of good quality. Most trainers feel secure in their abilities to facilitate basic seminars.

Instructors seem dedicated to the project and value it for its benefits for teaching and the development of the education system. They rate the project highly as they believe that application of active learning improves the quality of teaching; that the application of active methods develops cooperation between students and teachers; and that the application of active methods allows better quality of student knowledge.

Instructors state that an improvement of the project would come if there was an improvement in the system of support for teachers. For the reform of in-service education, the use of mentoring and other forms of support should be implemented.

Changes in training, relating to education reforms, the kind and manner of providing support are all necessary in order to increase the percentage of teachers capable of applying methods of AL. Instructors need to be selected more carefully and to have practical teaching experience.

The category “instructor” includes those with various professional profiles, some of whom have not been teachers and it is reported that they “... do not possess sufficient practical knowledge in conception of lessons which apply methods of active learning...”

There is still a demand from instructors and from interns for more training, particularly to conduct supervisory seminars. With the reforms already demanding more in-service training (and thus trainers) more trainers are needed particularly at supervisory level. The guiding criteria in this should be previous teaching experience and ability to provide team work training for those involved in the project. Potential trainers who are experienced subject teachers should also be included.

Subject teachers’ organisations have organised some trainers’ seminars in specific subjects such as chemistry, physics and maths. This has been a very positive initiative and should be strengthened and the initiative extended to other subjects.

**C.2 Training materials**

The Active Learning manual remains the main tool for planning and running training workshops, although video-taped lessons and lesson scenarios are also used. The manual provides “tips for trainers” under the title of “**Useful suggestions for seminar facilitators**”. Some locally made posters and other visual aids, extra readings and local case studies are also used during basic and supervisory seminars, depending on the individual trainer. It has not been possible to assess the quality of these other training materials, but more encouragement to produce locally adapted training materials would help to give trainers more opportunities to be more confident as well as creative.

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**Concluding remarks**

Training of trainers has been a success in terms of the quality of training, yet the quality of training materials should be improved. It will be necessary to train at least 30 more trainers, with subject teaching experience and including a fair representation of national minorities. The Centre for Professional Development (Serbia) and the Institute of Education (Montenegro) could establish a network of trainers so as to maintain their interest and enthusiasm and to learn from each other. This network would include all trainers who are training teachers in active and participatory methods not only Active Learning but also Step by Step, Civic Education, etc.

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11 (appendix 4a/4b pages 230-237 AL Manual 2)
EVALUATIVE REVIEW OF ACTIVE LEARNING IN SERBIA AND MONTENEGRO 1994 - 2004
Following the start of the reform process in 2000, a wider group of teachers took up in-service education opportunities, as it was a new requirement of teachers’ contracts to complete 100 hours of in-service training over a period of five years. Teachers had possibility to choose between several courses, which are accredited by the Ministries (Active Learning being one of them). Significantly more teachers were trained to basic level in 2003. Also during 2003 teachers of primary grade 1 in Serbia, were given training by the Ministry of Education to prepare them for curriculum changes as part of education reforms. Although the MoE training did involve some of the instructors trained by the AL project, teachers rated the AL training more highly, which may be a reflection of the content as well as the process.

The basic AL seminar is a three-day training activity which includes the following topics:
1. Traditional or active schools (pro and contra)
2. A student or child?
3. Activities of a teacher
4. Educational workshops (focus on group work)
5. Methods of teaching/learning
6. Goals of education and active school
7. The nature of school academic subjects vs. methods of teaching
8. Active school and real conditions of the school practice here and now.

Teachers have found all topics interesting and relevant, but find topics 3, 4 and 5 particularly useful for direct classroom application.

The whole process of the Active Learning Project teacher training can be summarized in four steps:

**Step one.** Basic seminar, for three days (see programme above). Once completed, they should elaborate at least one scenario and implement it, in order then to move on to the supervision seminar. They can consult with their school pedagogue/local trainer for help.

**Step two.** Activity in the classroom/school. Pedagogue/local trainer should undertake to support and monitor.

**Step three.** Supervision seminars (two one-day seminars, SV1 and SV2, often organised as a two-day event). This focuses on training in Scenario Analysis (SEKA) and Sequential Analysis (SEQA). Participants use the scenarios already elaborated by teachers.

In Montenegro, the supervision seminar is usually followed by another one-day seminar, conducted in a school where observation of a “live” lesson takes place, which is followed by analysis.

**Step four.** Application. Teachers try to implement AL, write scenarios (detailed lesson plans) and undertake Sequential Analysis (SEQA) with other colleagues. They should receive support from local trainers, school pedagogues and subject co-ordinators (often based in model schools or training centres), and there should be local meetings of teachers during which SEQA is conducted. It is expected that at least two “full” active learning scenarios are completed and analysed. Some model schools organise monthly meetings to discuss problems and practice and they will often analyse scenarios together. Those that want to attend a supervision
The main tool for training at both basic and supervisory level is the Active Learning manual and the posters, which go with it. Some trainers may make their own visual aids and may illustrate with their own stories/ case studies, but at basic level, the seminar is very much followed as per the template within the manual. At supervisory level the important resources are written lesson scenarios and video recordings of lessons. In Montenegro a collection of scenarios has been made available to teachers, and in Serbia, a collection has been collated ready for publication. Teachers find these models of scenarios, particularly useful for subject teaching as the training may lack specific subject examples.

D.2 Teacher opinions of training

Most teachers enjoy the approach to their own learning within the AL basic seminar as for many this is the first time that they have been trained using experiential and participatory techniques. However many comment that there is not enough practical applications within the first (basic) seminar. More examples of scenarios (lesson plans) would have been welcomed by participants and would have guided them towards writing their own.

The project team has been reticent to publish scenarios for fear of teachers just copying the plans rather than going through the process of creating their own.

The theory may be correct, but in terms of practical implementation on a national scale, it is wise to provide more “scaffolding” for teachers who are making tentative steps towards classroom change.

The need for more practical support is highlighted at this time where grade 1 teachers, in Serbia, are having to create a local curriculum as part of the new education reforms and therefore need more guidance on how to create not only lesson plans but whole schemes of work based on local needs and contexts. Some model schools have taken the initiative to publish “good” scenarios and in Montenegro a series of scenarios have been published for use by all teachers. Some screening or perhaps labelling of written scenarios may be necessary so that a range of good quality scenarios can be accessed by teachers. It has been planned that scenarios would also be shared on the Project’s intranet but this has yet to be realised.

A complaint by teachers is that a detailed scenario can take up to 2 hours to prepare and that feedback is likely to take weeks given the demands on trainers. It may be necessary to establish a process whereby scenario writing and analysis is seen as tools for reflection and assessment of quality through self evaluation during teachers’ meetings. At present the activity of writing lesson plans is being implemented prior to active learning lessons, but some teachers feel guilty if they have not been able to complete a “full scenario” for presentation to their instructor.

D.1 Training materials

The seminar are eligible if they have completed the basic seminar and have attempted to implement activities in their classroom. However, during 2003 the increased demand from teachers for supervision seminars could not be met, as there was a lack of time, funds and personnel to meet the demand.

Much of the information that teachers find out before the basic seminar tends to come from other colleagues who have attended seminars. Project promotional material and public media figure less in teachers’ information sources. Many of the teachers questioned stated that the information they had prior to the basic seminar was not sufficient to create a realistic picture of the seminar and the project as a whole. Good publicity materials can be useful for generating enthusiasm for attending a seminar as well as providing advocacy for further in-service training. It is also important to locate training nearer to schools as some teachers work in more isolated communities. Education reforms will enable new procedures to be put in place to relate more to local in-service training opportunities, and therefore different admission procedures, and perhaps a modified process of training.

In Montenegro half of all teachers (2,500), which includes all class teachers, have been trained providing a critical mass, which encourages increased co-operation amongst staff. The Open Society’s “Step-by-step training”, which also has Ministerial approval has only been able to train 200 teachers.
D.3 The quality of training at basic level

For all categories of teachers, the best aspect of the seminar was the ability of the facilitator to convey the content, to efficiently organize scheduled activities and answer the participants’ questions. Participants felt able to express their opinion during seminars and generally had good feelings about the seminars. The content was positively received and teachers found the methods of teaching and learning (including interactive group work) particularly helpful in terms of classroom applicability. Specific topics that were found most useful for further attention were lesson planning (scenario writing) and interactive group work. Throughout the review of the AL project it seems that those teaching all subjects in the early grades of primary school find the AL seminars particularly relevant, but subject teachers may rate the seminars less applicable because the seminars are generally not subject but process orientated. The project team have been aware of this and have attempted to include more subject associations in their planning (e.g. Chemistry). Workshops for Chemistry teachers at grades 7 and 8 (in Serbia) have been held during 2002-2003. In Montenegro, workshops have been held for Mathematics and Mother Tongue teachers.

In terms of improving the basic seminar, teachers have expressed the need for more practical teaching examples and more information on topics such as:

Evaluation and assessment of the student
How to realize and adapt “active learning” to present working conditions in the school Interactive group work (termed “education workshops”)
Active learning in multigrade classes (combined classes)

One comment that many teachers re-iterate is that the information they had before the seminar was not sufficient to create a realistic picture of the training and the project as a whole. The impact of such a situation is that trainers will waste much time during a short seminar in “opening the minds” of teachers to new methods of teaching and learning. Better information about what is expected from participants and what can be expected in terms of content and process during the training would help teachers make more effective use of the seminars.

Following the seminars, approximately two thirds of the teachers questioned, expressed their satisfaction with the seminar and that it had prepared them adequately for application at school level.

D.4 Support at basic level

On a five point scale teachers rate the quality of support following the basic seminar in Republic of Serbia as 3.49 (just above neutral) and in Republic of Montenegro at 3.92. This ratio is similar when teachers rate the quantity of support received as 3.34 in Serbia and 3.54 in Montenegro. This data is corroborated from discussion with participants who would like more visits/support from trainers, but when they receive it they find it very helpful. 13

In the Serbia primary teachers rate the quantity and quality of support higher than subject teachers do.
In terms of quantity of support, this is normally provided by colleagues, followed by the pedagogue, psychologist and principal. In Montenegro the rating of support is higher than in the Serbia, and may be due to the effect of all class teachers being trained. Teachers may find a common understanding amongst colleagues and are better able to support each other.

D.5 Supervisory seminars

One important motivation to attend the supervisory level of Active learning seems to be the possibility of exchange of experience with colleagues. Teachers rate highly “the expertise and readiness of seminar instructors to convey the main ideas and content of the seminar, as well as to answer questions”. The instructors were also rated highly for their organization and professional approach. Teachers had a high appreciation of the methods of working during the seminars and they found sequential analysis most useful as a tool for analysing lessons.

The main topics during the supervisory seminar are scenario planning (SV1) and sequential analysis (SV2). Sequential analysis comes in for more comment as it is a new and demanding activity. The process is seen as useful for clarifying objectives of a lesson, for identifying problems and searching for solutions in the execution of a lesson, for evaluating the activities of the students and for enabling professional discussion amongst colleagues. Lack of time is a recurring problem not only for undertaking an active learning lesson but also for the analysis afterwards.

Although most teachers state that they feel adequately prepared for undertaking sequential analysis, there are still some that feel that they need further training. It is possible that supervisory teachers may concern themselves more with factors of time for preparation as they are more demanding of themselves in terms of the quality of preparation, due to their experience of SEQA.

D.6 Support after supervision seminar

Support received by teachers from the project itself after the supervisory seminar has been found to be one of the weak points, as most support was expressed as support received from colleagues at school level. There were very few reported visits by project trainers to the schools of the trainees. However, those that did receive visits found them very useful. Instructors understand the need for more follow up work, yet there is not enough time or funds for travel for them to visit schools, themselves. Model schools in Serbia often have open sessions for teachers from surrounding schools to attend, but time, transport logistics and cost may prevent teachers from attending. The kind of support that was given to teachers was mainly support in application of Active Learning methods and in lesson preparation. Again colleagues were the main source of support with pedagogues/ psychologists next and head teachers third.

There is an argument that there should be more formalised follow up support for teachers, which has to be tempered with the low number of trained personnel to undertake such tasks. In Montenegro much of the follow up work is undertaken by inspectors/ pedagogical advisors during their normal course of visits, which may be one cost/time effective way of proceeding. Whole school training, with the assumption that teachers will cooperate and support each other at school level, is also a necessary development, which links with reforms and school improvement planning. Corroborative evidence from instructors suggests, that the quality of support given to teachers is higher than the quantity, and that instructors identify three main constraints on why support is not plentiful. The first constraint is that support remains a voluntary activity and only a small number of instructors undertake these follow up tasks, and even if they all offered support there is still not enough instructors available for constant and systematic monitoring and support. The third constraint is a lack of clarity about what is expected of teachers and about the best way of helping them.

D.7 How successful is the support provided for teachers?

Teachers state that they need specific support in the creation of active lessons (in particular subjects), preparation of materials for active learning, knowing how to encourage students to participate and the analysis of lessons.

From self report data instructors feel that many teachers do not have enough prior knowledge from which to construct their new knowledge about active learning. In future this needs to be addressed in the preparation of teachers before training, perhaps at school level, from more experienced mentors and/or trained teachers/trainers.

Instructors believe that the quality of support for teachers following seminars is adequate but that the quantity is not.

...There is a lack of instructors available for constant and systematic monitoring and support...”

“...It is not very clear what is expected of teachers, how they can continue their development within the project and in what is the best way of helping them...”

As the percentage of teachers who are confident and able to apply active learning increases,
following supervisory level of seminar, it is necessary to conceive the training as one continuous training not part A (basic) with optional part B (supervisory).

D.8 Motivation for training

Motivation to attend AL seminars has been, in the past, one of intrinsic rewards such as improving teachers practical teaching skills and acquisition of new professional knowledge. However, with new education reforms, professional development activities will be a requirement for all teachers and Active Learning can be one option for a teacher who wants to meet their requirements for professional development. Instructors have already mentioned that basic seminars are now more difficult to conduct due to poor motivation of some teachers.

With new working conditions and new expectations with regard to in-service training it is hoped that teachers’ motivation for training can be enhanced. Relevant training processes and an emphasis on support for teachers when implementing can maintain motivation as will an effective network of teachers.

D.9 Seminar evaluation tools

SCQAE analysed evaluation sheets completed by teachers following both basic and supervision seminars so as to corroborate evidence collected through questionnaire and to evaluate the sheets as effective tools. The sheets themselves included a variety of types of questions ranging from closed to open and including the possibility for pictorial responses. Some questions related to the whole seminar and some were specific to particular sessions. Questions dealt with content as well as the process. SCQAE found that specific questions yielded more objective answers than general questions and those questions, which encourage teachers to express, both their positive as well as negative impressions, were more informative. SCQAE were able to determine which of the types of questions revealed the most informative and reliable answers so that the quality of the seminar could be evaluated. This process is particularly important so that instructors can analyse the feedback and adapt their seminars accordingly.

SCQAE provided suggestions for improvement of the evaluation sheets for both basic and supervision seminars. An abbreviated summary of the suggestions is included below:

- General questions are less informative and reliable for analysis.
- Specific questions generate more detailed and objective estimates about the seminar.
- Closed questions, multiple choices, which allow participants to rate along a scale of say 1-5 can be more objective, reliable and more time effective in terms of analysis. They generate more conclusive comments. Open questions can be more demanding on participants as well as evaluators.

Different evaluation sheets were devised by co-ordinators of model schools which can be valuable for tailoring evaluation to regional contexts but is less useful for comparing quality on a national scale. It is suggested that a common format is used for the first part of the evaluation sheet with variations in the rest of the sheet to reflect the needs of regional seminar organizers.

Concluding remarks

The training of teachers has been very effective and has been a key platform for the launch of education reform. A critical mass of teachers now exists who are open to change and skilled in their ability to adopt and to adapt reforms to their own situation and to meet the needs of students.
EVALUATIVE REVIEW OF ACTIVE LEARNING IN SERBIA AND MONTENEGRO 1994 - 2004
SECTION E
MODEL SCHOOL NETWORK

E. Model school network

The Active Learning model school network in Serbia, was developed so as to “de-centralise” the project to the regions. In broad terms, this initiative has been a success, not only due to the creativity and hard work of regional co-ordinators leading to the diversification of activities, but for heralding the demand from Government for examples of decentralised processes. In Montenegro, model schools are termed “local centres for active learning”.

The Active Learning Central team feels rightly proud of their regional network and support it with enthusiasm as well as resources. “The schools - regional centres, together with the instructors in the region, represent the true protagonists of the Active Learning development in their respective regions, they plan the activities subject to their local needs and implement them with the support and assistance of the team of authors from the Institute of Psychology and other regional centres. It is obvious that this kind of work intensifies their feeling of affiliation to and communion with in the Active Learning Project programme”.

E.1 Description of number and distribution of model schools

The network of model schools/resource centres in Serbia has grown to 25 with some variations in the role of the school and activities planned. All model schools are subject to accreditation by the central project team and covered by “the book of rules for model schools” (see appendix 4, p.103). Within the network of schools in Serbia covered

by the Active Learning Programme, there are several categories of schools.

I Regional centres (RCs) of Active learning:
Seven schools are presently within this group and represent the core of the network in terms of the length of time in which they have been operating.

II RCs that have fulfilled most of the criteria of becoming a model school but waiting to be accredited.
Nineteen schools are in this group, and include schools where there are interns who when they have completed their “apprenticeship” will extend the number of trainers and allow these schools to be fully accredited.

III Active Learning model – schools for development of specific programmes
This category includes schools, who work in the Hungarian and Albanian languages, who work with children from specific ethnic groups, with children with special needs and gifted children. Small rural schools, particularly those with multigrade or combined classes are also included.
Three schools have received support for their work in specific programmes.

IV Schools – members of the Active Learning schools network. All those schools that are not regional centres or model-schools, but which, in their work, apply and develop the programme and the ideas of Active Learning.

In Montenegro, there are ten local centres for Active Learning. Although, this is not a formal model-schools network, as in Serbia, the strong involvement of the team of inspectors has

encouraged good collaboration between schools and sharing of ideas and scenarios. Catalogues of scenarios have been distributed to all Montenegrin schools. It may be appropriate now to increase the support to three of the local centres (North, Central and South) to improve networking and consolidate the work of instructors in training and follow up support.

The role of model schools

In line with decentralisation, local decision making has allowed a wide variation of practice within the model school network. For example, one co-ordinator may feel that it is their responsibility to travel to schools to visit and provide support to teachers. Another co-ordinator will see their school as a “drop-in” centre where any teacher can call at the school, observe other teachers and use the photocopier to copy local scenarios, at a time which is appropriate to all. Both models have their advantages and disadvantages. Within the Project book of rules there is no specific comment on how the model school should “service” teachers in the region apart from planning and organizing training and maintaining full documentation about regional activities. The main responsibilities for the model school/regional resource centre are described in the book of rules:

“Making of the annual plan of work and Active Learning activities in the region, in cooperation with the Coordinator of the entire Active Learning Project at the Institute of Psychology.

Rendering assistance in organizing of Active Learning Project seminars in the region:
- giving information
- contacts with Active Learning Project coordinators in the Institute of Psychology and Ministry of Education
- lending of Active Learning Project equipment required for seminars, video tapes of classes and performed seminars necessary for realization of a seminar”.

In turn, the model school has certain “rights”, or benefits:
- “The school-regional Active Learning Project centre becomes a methodic centre of the Ministry of Education and Sports.
- The school has right to be provided with the equipment, instructional material and expendable supplies from the budget allocated for Active Learning Project activities.
- The school is entitled to funds from the local budget for realization of Active Learning Project activities in the region.
- Affirmation of the school as a centre for innovation.
- The school will be included in the Active Learning Project web page (within the Project web page each school-model centre shall have its short presentation in Serbian and English).”

The rulebook states that model schools, once accredited, can keep this status for two years, after which their status is reviewed. There have been cases where model schools have in fact lost their status, for not fulfilling their obligations.

E.2 The role and responsibilities of the model school co-ordinator

As outlined in the book of rules (part 3) the job description of the co-ordinator is defined as:

- Co-ordinates Active Learning Project activities in the school-regional centre and in the region, in co-operation with all the instructors and/or instructors/supervisors
- Communicates with Project Co-ordinator in the Institute of Psychology and Ministry of Education.

From self-reporting data the co-ordinator spends a significant amount of time on Active Learning activities. Time used for specific work on AL as co-ordinator varies from 3 to 30 hours per week with approximately two thirds of co-ordinators spending up to 8 hours per week. From interview data, the co-ordinators report on their willingness to do the job, but demand more time to fulfil their responsibilities and would want their status to be better accepted and approved.

In Serbia, trainers as well as co-ordinators, are involved in organising and following up basic and supervisory seminars. The co-ordinator may be supported within the school by other trainers or may have to co-ordinate the work of the regional team by contacting trainers based in other schools. In some regions, there are not enough trainers to facilitate the supervisory seminars, and in
this case co-ordinators may ask colleagues from neighbouring regions or seek help from the central team.

The range of self-reported activities include: communication locally and with the national team, planning activities and reporting on them, organizing seminars and preparing materials. Co-ordinators are now required to develop an annual plan of activities and maintain detailed records and reports as well as the archive of video films, photographs and scenarios. Nearly all of the co-ordinators make an annual plan of activities, which are sent to the national Project team. Although co-ordinators state that, their original professional training did not prepare them for this responsibility, their Active Learning training has been relevant and now 75% of them feel confident to do their job. They do receive support from the central project team but still demand more consultations with members of the team.

Co-ordinators report that they need more guidance, improved communications, would like their role better defined and developed, and a few stated they wanted to be better rewarded, financially, for their work.

UNICEF has supported the model school network with a range of supplies and equipment such as computers, overhead projectors, video cameras, photo copying machines and flip chart boards. Some schools have also received science apparatus to encourage more active science activities. Half of the number of coordinators report that the supplies are sufficient and two thirds stated that it does meet their immediate needs.

In Montenegro, both trainers and inspectors take the responsibility for supporting teachers.

Concluding remarks

The establishment of model schools has been an effective strategy to provide regional training, and to provide resources (human and material) to support teachers following training. The regional centres in Serbia should continue to operate as training centres for the project. However it must be kept in mind that the Centre for Professional Development (CPD) plans to establish 12 regional CPD’s which will have the responsibility for hosting in-service training courses. As such, there could be an overlap of the functions of the CPD’s and the AL model schools. For the time being, the CPD’s have not been created and so are not functioning, but the model schools need to consider specialising to meet the needs of local teachers through networking and for supporting specific activities. Model schools should complement the CPD’s, they can provide “live class” experience during training for example and be outreach centres if they are some distance from the regional CPD. They should be the focal point for the teacher networks while the CPD takes on the responsibility for the trainers’ network.
SECTION F

MAIN EFFECTS OF PROJECT

As the objectives of the project were to impact on teachers and students and particularly the teaching and learning process, emphasis has been laid on these.

F.1 Effects on teaching-learning process

Due to the recent history in both Serbia and Montenegro, teachers found their conditions of work deteriorating and this had an obvious effect on motivation.

The long-standing low salaries, life on the line of poverty and bad working conditions resulted not only in the loss of motivation but also in corruption. Moreover, there is an increasing number of teachers having additional jobs; they perform other jobs that have nothing to do with teaching, and feel no desire or motivation to use at least a part of their leisure for professional training.  

Traditional ways of teaching have also dominated school practice, discouraging participation of students and creativity of teachers. These traditional ways have been particularly dominant at pre-service level:

It is thought, that the state of the teaching and learning process in Serbia and Montenegro during the 80’s and early 1990’s was one of didactic presentation by teachers with a passive response from students.

The Active Learning Project has tried to provide teachers with a framework in which they can create new possibilities for learning in the classroom, to increase motivation for professional development and to give support to those who are open minded to new ideas and practices.

The objectives of the project particularly focus on the work of the teacher in planning and undertaking of lessons, the activities of the students within the lesson and the relationship between the teacher and students. From evidence collected so far, it seems that these objectives have been partly realised. Certainly, teachers have had more guidance on how to plan and analyse their lessons and how to involve students far more by planning a range of activities for them. The relationship between teacher and students has also significantly changed for the better in terms of learning partnerships and mutual respect. Some teachers have increased the participation of children in actual preparation for lessons.

What has been challenging for teachers involved in the project is that the process for planning and analysing lessons has been rigorous and the execution of such planned lessons or scenarios takes too much time given the time constraint of a traditional lesson (35-45 minutes). For the confident, committed teacher the process is challenging but rewarding, for the average teacher the process remains challenging.

When we see Active Learning in practice there is a whole continuum of practice, which may meet the criteria for good active learning. From the limited direct observations that could be undertaken (these were from both Serbia and Montenegro and from at least seven regions), the review team were impressed by the skills and dedication of many of the AL teachers and the excited and confident response of the children and young people.

The Active Learning teachers who were observed, from grade one to grade six, general and subject teachers, had been trained to supervision level and beyond. Most had a good relationship with their students, were well planned, and provided a positive atmosphere for learning.

15 (ref p.4 Ministry of Education Serbia - Quality of Education for All CD)
There were many innovative approaches at all levels, class teachers finding it easier to create the right conditions for active learning compared to the subject teachers. Subject teachers were less likely to have their own room, were more restricted in terms of time with one class, and reported on being less prepared during Active learning seminars as the focus was more on the process and methods of teaching and learning rather than the content, which the subject teacher needed to teach. Structured classroom observation is now necessary so as to confirm the effects of training on teaching and learning in practice. Tools developed for this purpose could be based on external examples (see appendix 6, p.109) and could be adapted using the experience of project team members who have developed and used SEKA and SEQA. Structured classroom observation should not be a tool for assessing teachers, but one, which will lead to a better understanding of classroom processes and a basis for creating better learning environments for students.

F.2 Effects of the Active Learning project on teachers

Teachers rate highly the effects of the project. Teachers who have been trained up to supervisory level rated the effects more positively than those trained to basic, and those in the Republic of Serbia more than in the Republic of Montenegro.

Teachers believe that the school atmosphere has improved as a result of Active Learning training. From research by SCQAE it seems that on average, teachers think that the most positive effect of active learning is on co-operation with professional staff (educational assistants such as school psychologist, pedagogue, etc). This is good timing for education reform, as cooperation at school and regional level is a key process for effective decentralisation. The better motivation for professional development by active learning teachers also provides a model for Government to introduce more co-ordinated professional development programmes. Teachers also rate highly the improved co-operation between teachers and students as well as improved practical aspects of teaching. Teachers in Republic of Serbia rate more highly the quality of knowledge that students gain, while teachers in Republic of Montenegro rate highly the positive effects on teacher and student motivation.

Teachers also rate highly the effects of Al on themselves, in all regards, but particularly on their own professional development and their willingness to cooperate with other professionals.

Application
About two thirds of teachers who have been trained at basic level believe that the project methods were applicable to their classroom context and that they were adequately prepared to apply them. From data received from trainers, similar percentages (approx. 60%) of teachers were applying active learning in their classrooms either partially or as full active lessons.

After basic training, teachers believe they are generally qualified to apply active learning methods in the classroom, but after supervision level, teachers are more confident they can apply active methods in the classroom.

Teachers feel confident that they can realize full active learning in about 29% of their lessons and apply partial active learning in over 60% of their lessons.

SEQA
After Supervision training 60% of teacher respondents report that they have completed a sequential analysis after observing a “live” class. Others would have completed a sequential analysis following observation of a recorded lesson. Some will of course have observed both types of lessons. One third of teachers have completed a sequential analysis over ten times. 60% have applied an analysis to a video record of their own lessons.

Although teachers find the analysis of lessons professionally stimulating, enabling mistakes to be corrected through dialogue with other professionals, it is also very time consuming. Some teachers also feel that being observed or recorded affects their performance in the classroom.

Those teachers who didn’t use the sequential analysis process reported that this was due to lack of time, insufficient training and an unfavourable atmosphere in the school.

Scenario writing
Scenario writing which is the sophisticated form of lesson planning used in Active Learning, can be used as a tool for self reflection on the teaching and learning process. In its most detailed form it
The reflective teaching approach could be reported note taking during one year is lower than the reported amount of full active learning lessons. Teachers may complete lesson plans for an active learning lesson but may not call them a scenario as they may not match all the criteria for a scenario as outlined in the AL manual (table 4, page 95) which will involve planning and adaptation through dialogue with other colleagues. There are two main sources of scenarios, those that are created personally, or with a colleague and modelled in the AL manual, and those that are developed by other colleagues. From self reported data approximately 35% of teachers used scenarios written by their colleagues. In general, teachers who have been trained to supervision level cooperate more with colleagues to realize their active learning lessons, which may include joint scenario writing and analysis.

Just under half of teachers questioned stated that they kept written records of their lessons, with a higher percentage in Montenegro compared to Serbia.

**Record keeping and reflective teaching**

Approximately 44% of teachers stated that they keep records which allow constructive evaluation of a lesson, such as: “I record the difficulties I had and note those things that did not work” or “I write down good ideas for future use”, etc. About 32% gave responses relating to student activities in the classroom, such as: “I note down situations in which the students were not active”. Fewer teachers kept notes of student achievement. Teachers in Montenegro record lesson evaluations more than their Serbian colleagues, while in Serbia there was more reported note taking about lesson activity.

The reflective teaching approach could be encouraged and structured more within the project. It is used when writing scenarios, when analysing lessons, which are defined events, now it should be encouraged in all aspects of a teacher’s job. The cycle of planning, action, analysis, then further action can be applied to all lessons not just to those which are “full active lessons”. It should be a natural activity for teachers to keep notes before, during and after a lesson. Notes can relate to the progress of the lesson itself as well as notes on children’s achievement and behaviour.

Much of this note-taking will be for the teacher herself, but it can also be used when working with other colleagues to improve all aspects of professional practice. There is now a strong national and international body of professionals who work in the action research field and if these approaches can be fostered in Active Learning in Republic of Serbia and Republic of Montenegro then they can link themselves to this growing body and perhaps relate their results to ongoing accreditation, thus adding more motivational factors to professional development.

**F.3 Effects on teachers of combined classes**

There are many situations where combined classes are necessary, both in Serbia and Montenegro, due to the geography of the region. Some “satellite” schools exist for just the first four grades, after which the children attend the larger all grade primary school, further away from home. Although many teachers (approximately 2,500 teachers in Serbia) do teach combined or multigrade classes, there has been very little specific training provided by the MoE for these teachers. There are 305 multigrade classes in Montenegro.

From the results of research on Active Learning in one region of Serbia, multigrade teachers trained by the project report that they manage to implement 42% of their classes as full active learning and 32% as partial active learning. This is higher than reported by other class teachers but matches with multigrade teachers’ comments about the high applicability of active learning methods to multigrade situations. Teachers of combined classes are enthusiastic about the benefits of using active learning approaches as they feel that it improves cooperation amongst the students and that children are more tolerant of each other.

Constraints to implementing full active learning in multigrade classes relate to a lack of resources (due to the different grades in one class) and to the time needed for preparation due to the wider range of students in one class. Teachers are keen to improve their skills and request more training in terms of organising different activities and content for different grades. They wanted training that would help them develop their skills in effective classroom management, ensuring access to activities for all students and in lesson preparation.
**Cooperative learning and group work**

At basic seminar level there is a need to consider individual differences in learning and to address the management of cooperative learning. Unlike traditional group work, cooperative learning involves sharing responsibility, sharing resources and working toward common goals (positive interdependence). The development of cooperative group skills involves time, practice and reinforcement of appropriate behaviour. The teacher plays an important role in establishing a supportive environment, one in which students feel secure to take risks, an environment where all students’ opinions are valued and where intellectual conflict is accepted and managed. One example of a well-managed active learning lesson, observed by the review team, had the children organized in groups. However, the demands of the planned activities made cooperation unnecessary. The teacher had introduced differentiation of task within the lesson which was admirable, and she would have allowed children to talk together, but in fact the activities did not encourage this, so children just completed the tasks on their own, there was no requirement for positive interdependence. In terms of teaching, this was a well-planned lesson, but in terms of interactive learning planning needs to build in the opportunities for discussion and the development of cooperative learning skills so as to solve a problem together.

The environment in active learning classes has been observed to be supportive of cooperative learning techniques.

“The atmosphere is far more pleasant primarily for students but also for teachers”. (a comment from inspector – Montenegro).

However, there seems to be little awareness of the process necessary to develop cooperative learning skills.

Cooperative group work can help all learners by enhancing understanding, and promoting enjoyment and positive attitudes towards work and self. But in order for all students to benefit from cooperative group activities, all students need access to a variety of skills and roles. Communication skills are particularly necessary, including skills of active listening, assertive speaking and taking turns. These skills are not only needed for cooperative group work but they are also skills for democratic citizenship. Active learning is a process whereby generic skills can be developed whereas other projects may focus more on specific content, yet utilise those generic skills, already developed.

**F.4 Effects of the Active Learning Project on students**

At present, no formal assessment have been made on the effects of active learning on achievement. However, through observation, interview, discussion and questionnaire some assessment can be made of the possible effects on students’ learning and behaviour.

The results of the review in terms of active learning effects on students can first be illustrated by comments by teachers, trainers and inspectors from both Serbia (S) and Montenegro (M).

“I know that there have been positive effects on students and I believe it particularly applies to weaker students”. Teacher in Serbia (S).

“There seems to be better individual achievement due to the respect for individual abilities”. Teacher in Montenegro (M).

I  Change in role of student

“They are now in a different position in the learning process, they are active and respected.”(S)
“Thay learn how to learn, to be independent, to use acquired knowledge.”(S)
“They learn how to learn, not just for a mark, but for the purpose of acquiring knowledge, and they do not experience it under coercion.”(S)
“They are motivated, as they involve their own experiences and emotions.”(S)
“Students’ interests and abilities are respected and active learning also helps them to develop their personalities.”(M)
“The atmosphere in classes is better, they do not hesitate to speak up and they do not fear school.”(M)

II  Skill development

“They have got an opportunity to freely express their opinions and to develop their communication skills.”(S)
“It makes the content closer to them – it makes it life-like, it encourages them to express themselves, to participate, to communicate and to create.”(S)
“They are free to express their opinions and attitudes and they learn to respect other people’s opinions.”(M)

III  Problem solving and application of knowledge gained

“They learn to take initiative, develop the skills of collecting and analyzing data, of making conclusions and applying them in practice.”(S)
“They acquire perpetuated and applicable knowledge, they are taught to co-operate, to be initiators, to be communicative, and to “use his/her head.”(S)
“They construct their own knowledge and develop their personalities; They also understand the syllabus they study and therefore, such knowledge can be applied better.”(S)
“By helping them become capable of finding answers for themselves and of applying new knowledge in practice.”(M)
“The knowledge they gain is more solid, longer-lasting and more applicable in practice.”(M)
“By connecting school with real life, increasing motivation, providing better communication between teachers and students.”(M)
“They seem to develop permanent and more useful knowledge.”(M)
“It stimulates their desire for research; students are encouraged to be more active in finding solutions to problem situations.”(M)

IV  Participation

“They participate in every respect; it is more difficult for them to get to solutions, but the results are more enduring.”(S)
“Children are more active, more free, tolerant; they learn through games and research.”(M)
“They can develop skills for cooperation and teamwork.”(M)
“By more active participation of students and stimulation for better quality in teaching – better student motivation, the results are better.”(M)
“Currently, students help their teacher to design classes of Serbian language.”(S)

The issue of participation is particularly important, not only in terms of children’s rights, but of children’s willingness to learn and therefore how teachers teach. From a study of teachers’ attitudes by the SCQAE, it was found that the two most important factors which impact on teachers’ motivation to use active learning methods are the positive reaction of students and the quality of knowledge formed through active learning lessons. This indicates that teachers are most motivated to employ active learning methods because of the students. They noticed that students react positively to education in which they can actively participate.

Some head teachers in Serbia and Montenegro have expressed their belief that active learning has a direct impact on student motivation and in fact, actual achievement. From observation of several classes, it is noticeable that students feel freer to ask questions, to interact more easily with the teacher, receive respectful comments from their teachers and take more responsibility for their own learning. However, the review team did not observe enough classes to make these generalisations applicable to all. A key follow up to this review is research into what happens in a wider range of classrooms using structured observation.

In terms of changing the atmosphere in the classroom and providing a climate of trust necessary for cooperative learning, it seems that at least half of the teachers questioned agreed that Active Learning had made an impact. Some teachers also believed that children’s understanding was improved and that knowledge gained was longer lasting.

Research by SCQAE with teachers emphasise the possible effects of the active learning project on children’s learning. Teachers have stated that active learning contributes more to the development of creativity, interactivity and a sense of teamwork in students. It also improves the student’s relationship with the teacher.
Respondents rated the benefits to students:

<table>
<thead>
<tr>
<th>Benefits and advantages for students</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interactivity and sense of team work</td>
<td>4.72</td>
</tr>
<tr>
<td>Ability to think critically</td>
<td>4.65</td>
</tr>
<tr>
<td>Creativity</td>
<td>4.63</td>
</tr>
<tr>
<td>Quality of knowledge</td>
<td>4.63</td>
</tr>
<tr>
<td>Ability to apply acquired knowledge in life</td>
<td>4.62</td>
</tr>
<tr>
<td>Social skills</td>
<td>4.61</td>
</tr>
</tbody>
</table>

(based on 5 point rating scale – where 5 is rated highest)

Evaluation of the basic benefits the students would achieve following application of active learning methods

Besides the above, instructors also stated the following as benefits and advantages for students: changes in perception of school, development of a positive attitude toward school, being independent and taking initiative in work, as well as mastering of learning techniques and strategies for independent learning.

One goal of the project was to change the position of the student at school and it seems that this has been partly achieved, many teachers reporting:

“*There has been a change of the position and role of teachers and students*”, “*more intense communication*”;

“*There has been a change in the relationship between student – teacher*”.

*Results from small scale research*

Some small scale research has been undertaken by University post graduate students which has affirmed the positive results on learning through active approaches. One research report by Dr Tomka Miljanović¹⁶, illustrates the possible approaches to classroom research and which could be undertaken alongside a more comprehensive assessment of student achievement through active learning.

Dr Miljanović sampled 240 school children (120 in the two groups each) from 8 classes (4 experimental and 4 controls) and 4 elementary schools (2 experimental and 2 controls). Both the experimental and the control group were homogenised by their family characteristics, personal traits, overall achievement, achievements in biology, chemistry and physics as well as an IQ test. Dr Miljanović concluded that “a greater quantity and quality of knowledge in the final test and re-test in general was shown by the experimental group when compared with the control”. The statistically significant result was understood to be the result of active learning approaches with the experimental group. Other research for doctoral theses have achieved similar conclusions, particularly in Biology and Chemistry, showing that concepts are better understood through active learning approaches and that when tests are given much later, that this knowledge is more long-lasting.

The review team could not generalise from this research but it does give indications that have been corroborated through questionnaire and interview.

Model schools have also undertaken research to assess the impact of active learning approaches on student achievement and the results again point towards positive benefits for both teachers and students. Verbal reports have mentioned the effect on children’s academic results as well as positive effects on children’s motivation to learn.

What needs to happen next is a comprehensive assessment of student achievement for those students who have been subjected to active learning processes and to compare with those whose experience of active learning is negligible. Particularly important would be a large-scale classroom observation exercise and analysis of video taped lessons so as to better understand the dynamics of the classroom and to improve the training of teachers.

¹⁶ (ref: Active learning in elementary biology teaching, Doctoral research; University of Belgrade, 2002)
SECTION G

ISSUES OF INCLUSION AND QUALITY

Issues of inclusion have not been directly addressed by the Active Learning Project, however, the increase in opportunities for active participation by students provides a framework for more inclusive approaches.

G.1 Inclusion

Through teacher report and observation, the project has made a difference in improving the atmosphere for learning and the relationships within the classroom. Both of these factors can pave the way for more inclusive approaches to quality education. Both Serbia and Montenegro have populations of refugees and internally displaced people who often are affected by multiple disadvantages such as language difference, psychosocial disturbance and poverty. Other groups who also suffer disadvantage (and sometimes exclusion) include the Roma and children with special needs. Although active learning approaches do provide excellent potential for supporting learning for these groups, there needs to be more work on training materials, teachers’ awareness of student needs and differences, classroom processes and teacher prejudice.

One third of respondents who are already working with Roma children, for example, try to adapt the suggested model of working while two thirds do to a lesser degree or not at all. A small number (6%) have made special scenarios for work with Roma students. Some teachers have particular difficulty due to the reported poor language skills of some of the Roma students. However, the potential of active learning is significant as teachers report that these approaches increase motivation to learn, it helps to develop their cooperation skills through group work, and more mutual respect is engendered through the emphasis on working together. Teachers also state that Roma students become more active in their acquisition of knowledge, they study better, they are more interested and engaged in learning and teachers feel that the approaches ensure the development of democratic values. Some teachers are not prepared for working with Roma students and may use stereotypes to describe them such as: “intellectually slow”; “they lack interest”; “they have a poor level of knowledge”; “they get bored and fed up easily”; “they have a short attention span”. Project training needs to challenge issues of stereotyping, prejudice and individual difference, so as to inform and prepare teachers better to meet the needs of a wider range of students. Teachers have already identified the professional skills that they need, and include better knowledge of the Roma students’ culture and social relationships, how to adapt subject content for a wider range of students with differences in ability, work habits, ethnic and cultural backgrounds and interest. Teachers would like a specific training module to be created for this purpose.

The content of training seminars should help to raise awareness and help teachers design interventions at classroom level, so as to include all children in the process of learning. Attendance at school is not enough, as curriculum and process can be excluding (e.g. through “foreign” language of instruction, for example). Teachers should have their prejudices challenged during training while also exploring individual difference in learning so that classrooms are more welcoming and accommodating to all children regardless of their backgrounds. Learning should build on students’ prior learning and life experiences. Teachers should also be aware of bias in teaching and learning materials.
G.2 Improving the quality of active learning in schools

Teachers and instructors report that several factors can ensure success of active learning methods, these being:

- Teacher’s willingness to implement AL;
- Teacher’s preparation, so as to employ different methods;
- The variety of teacher and student activities;
- The availability of teaching and learning materials;
- Teachers willingness to work with other colleagues;

The factors that may hinder application of active learning methods were reported as including:

- Lack of adequate preparation time;
- Lack of sufficient lesson time (i.e. need for 90 minutes rather than 45 minutes);
- Rigid and overloaded curriculum;
- Textbooks that dictate lesson structure;

- Few colleagues within the school who have been trained;
- Head teacher who has not been trained;
- Lack of suitable learning materials and equipment;
- Lack of follow up support after training;
- Discouraging school atmosphere;

From these two lists teachers also made their suggestions for increased application of Active Learning methods in schools:

- Increase the amount of training for teachers and trainers;
- Allow more time for preparation;
- Provide more and appropriate learning materials;
- Reduce the curriculum load,
- Use the media to raise awareness amongst teachers and parents to accept education reform;

Of course all teachers would want their salary increased so as to provide extra incentive for increased preparation time...

Concluding remarks

The project has attempted to improve the quality of teaching and learning in classrooms in Serbia and Montenegro. From self-reporting by teachers and instructors, and limited observation, the project seems to have succeeded in making classrooms more child-friendly and inclusive by improving relationships between teacher and students and by increasing the opportunities for active participation by the students. The project has improved the status of teachers by allowing them to develop their professional skills, particularly in the area of lesson planning and lesson analysis. The environment for learning has improved particularly in respect to the social environment, where previously excluded children (excluded by way of access to the curriculum) can now find their place through more cooperative forms of learning and through activities that can use some of their "multiple intelligences". This cooperative learning environment can also have a positive impact on students psycho-socio-emotional health, which is particularly important considering students’ recent experiences of conflict.
EVALUATIVE REVIEW OF ACTIVE LEARNING IN SERBIA AND MONTENEGRO 1994-2004
SECTION H

ACTIVE LEARNING IN THE CONTEXT OF EDUCATIONAL REFORM

Introduction

This section amplifies how the Active Learning project

1. Fits in with the aims of the education reforms and addresses key concerns of the reforms;
2. Has made teachers more open and able to implement reform measures;
3. Has contributed to reforms to improve quality assurance - and,
4. Has promoted professional development in the context of reforms.

In key areas of reform that are relevant to the project, notably quality assurance, professional development, and governance and decentralisation, this section also analyses how the project can further contribute to the reform process.

By way of introduction, the Review Team should point out that it heard repeatedly from key officials in both Republics that the Active Learning project played an important role in the reform process, not only in contributing positively to the reform discussions and helping to give them good direction, but also in enabling teachers and other education officials to undertake certain reform measures. The deputy Ministers in both the Republic Serbia and Republic Montenegro stated their appreciation for the project’s contribution, as did numerous other officials, including the Director of the Centre for Professional Development in Serbia, officials from the Centre for General Education in Montenegro, as well as officials from the regional education authorities.

H.1 Curricular reforms and teacher readiness

The education systems in the Republic of Serbia and Republic of Montenegro prior to the reforms, worked under certain constraints:17

1. The aims were not precisely specified (made operational), which disabled the monitoring and evaluation of the educational process and of the functioning of the education system;
2. The outcomes of education had not been specified, i.e. the knowledge, skills, attitudes and values the student should possess upon completion of a certain level of education are not defined;
3. Unplanned effects emerged, e.g. the education system creates passive personalities, which was not defined as an education aim. The space for investigation and critical thinking by students was narrow;
4. Academic programmes did not integrate children’s experiences. The desirable outcomes of education were not precisely defined and were determined mostly in respect of memorised quantity and not the quality or applicability of the acquired knowledge;
5. The curricula were implemented mostly by frontal forms of work, based on verbal methods;
6. The aims were not mutually synchronised;
7. Curricular content was overburdened.


The analysis pertains to the Republic of Serbia, but is equally relevant to the Republic of Montenegro.
The education systems, including the curricula, are being reformed in both Republics to remedy these shortcomings.\(^\text{18}\) In many of these areas, the reform is supported by the Active Learning project. For example, with respect to the issue of undefined educational outcomes, education officials in both Republics are working out the precise educational outcomes for students. The Active Learning project supports this process to the extent that it trains teachers to re-orient teaching-learning processes from an emphasis on what is taught to an emphasis on what is learned, that is, on the educational outcome for the student. With respect to the emergence of passive personalities, the Ministries of both Republics are promoting more active learning processes, and this is obviously a core concern of the Active Learning project. A fuller consideration of these different shortcomings, reform remedies, and the project’s support is given in Matrix 1.

Given the multiple ways in which the AL project supports the reforms, one would expect teachers who have been trained by the project to be more open to the reforms and willing to implement them than those not trained by the project. And indeed there is evidence to this effect. This can be seen, for instance, in teachers who will first be responsible for implementation. In Serbia, curricular reforms are being implemented this year in Grade One, while implementation will begin next academic year in Montenegro. As part of the reform, Grade One teachers in Serbia are expected to assist in the introduction of several changes, including the:

1. Use of descriptive marking;
2. Introduction of a foreign language;
3. Introduction of a flexible schedule of classes;
4. Creation of ten percent of the school programme;
5. Introduction of elective subjects;
6. Definition of educational goals in terms of outcomes.

Teachers who have completed AL training, as well as teachers who have not done any AL training, were asked to rate on a scale of 1-5 their opinion of particular curricular reforms (where 1 is strongly

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18 Curriculum has a broad meaning in the context of reform: “All the contents, processes and activities directed at the fulfilment of education aims and outcomes, which are defined and regulated at both the central (national) and the school (local) level”. Among the topics included in the definition are “school autonomy and development, shifting the focus of the educational process away from the contents and towards education aims and outcomes, the quality orientation, the development of systems of evaluation and self-evaluation in education, teachers’ professional autonomy and responsibility, basing educational contents on education areas, the emphasis on the student and the learning processes, a dynamic, high-quality, encouraging and developmentally oriented education environment, continuous social support and concern with the efficiency and quality of the education system”; “Policy for Curriculum Development in Obligatory and Secondary Education”; Commission for Curriculum Development, Belgrade 2002, p.23. The same definition would apply equally well in Republic of Montenegro.
negative, 3 is neutral and 5 is strongly positive). As Graph H.1 illustrates, teachers who have completed the supervision seminar rated more highly the introduction of defined educational outcomes, elective subjects, decentralised school programmes, a foreign language, and descriptive marking; the one reform they did not rate as highly was the flexible schedule of classes. Finally, teachers were asked to rate how ready they were to work in Grade One in the context of the new curriculum. Again, supervision-trained teachers rated themselves more highly (3.68) than the control group (3.43).

**Matrix 1. Project support to curricular reforms – some examples**

<table>
<thead>
<tr>
<th>Shortcoming</th>
<th>Reform</th>
<th>How the project supports this reform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education outcomes not specified.</td>
<td>Outcomes are specified.</td>
<td>Active Learning reverses the traditional emphasis from what is taught to what is learned, and thus encourages the teacher to focus on outcomes. This will help the teacher not only to organise and implement lessons that are outcome-focused, but also to define educational outcomes (which they must do for part of the curriculum). Further, among the outcomes proposed thus far, some of them are skills that AL specifically targets, such as higher order learning skills (e.g. “Be able to perceive, analyse and solve problems”) or group/social skills (e.g. “Be able to participate in teamwork”).</td>
</tr>
<tr>
<td>The system creates passive personalities, and does not allow much space for investigation and critical thinking.</td>
<td>Reform teaching-learning processes to make the student an active learner.</td>
<td>This is one of the main objectives of the project, which also emphasises the need for children to be able to undertake investigations and critical thinking, either independently or in groups.</td>
</tr>
<tr>
<td>The curricula are implemented mostly by frontal forms of work, based on verbal methods.</td>
<td>As above.</td>
<td>As above. In particular, the project works to get teachers to reduce their reliance on ex cathedra teaching, and increase the active participation of children in the learning process.</td>
</tr>
<tr>
<td>The child is not adequately prepared for active and responsible participation in the life of the community and nation.</td>
<td>One of the general aims of the reformed system is to build student capacity to actively and responsibly participate in economic, social and cultural life and contribute to the democratic, economic and cultural development of society.</td>
<td>The project emphasises the student’s active participation in learning, and to the extent that this develops the child’s initiative, critical and analytical skills, and capacities to exercise choice, as well as the child’s skills to work in groups, these should help to prepare the child to “actively and responsibly participate” in the community’s and country’s democratic, economic and cultural life.</td>
</tr>
<tr>
<td>Academic programmes do not integrate children’s experiences. The outcomes of education are determined mostly in respect of memorised quantity and not the quality or applicability of the acquired knowledge.</td>
<td>Define integrative areas around outcomes. Introduce active learning processes to improve the quality of knowledge.</td>
<td>The project encourages teachers to develop scenarios that integrate curricular material from different areas, and to relate material to the children’s experiences. These efforts, along with the active learning processes that are promoted, are thought to improve the quality of knowledge, that is to make it clearer, longer-lasting and more transferable.</td>
</tr>
</tbody>
</table>
While for most questions the difference in ratings between the AL-trained teachers and the control group teachers was not large, the overall pattern is consistent – teachers trained by the AL project are more open to the curricular reforms and are more willing to implement them. Though not displayed above, teachers who have completed only the basic seminar also tended to rate the reforms more highly in comparison to the control group. In this regard, the AL project seems to have contributed positively to the chances of the curricular reforms succeeding, and thus will have contributed to a higher rate of return on the investments in curricular reform.

H.2 Quality Assurance

Quality assurance has assumed particular importance in both Republics as a result of the new focus on educational outcomes. “The realization of curricula ceases to be the primary task and objective of educational work in school and becomes its instrument, while the school assumes a significant portion of the responsibility for the quality assurance of the educational process and its outcomes.”19 Both Republics are establishing new systems for quality assurance, in which three areas will play important roles: pedagogical advice, pedagogical inspection, school self-evaluation and teacher networks, and external examinations.

a. Pedagogical advice. The role of the “educational adviser” was defined in 2002 in Serbia. According to the new law (article 138), the educational advisor will inter alia:

1. Evaluate the quality of the work of primary school, the realisation of the development plan and the school curriculum;
2. Advise and provide professional assistance to teachers, professional support staff and the principal for the advancement of the quality of school operations;
3. Have direct insight into the operation of the school, the work of teachers, professional support staff, and principals;
4. Attend the delivery of classes, examinations and other forms of educational work;
5. Monitor and analyse the realisation of experiments;
6. Assess the degree of fulfilment of the conditions for the title of pedagogical advisor and mentor.

In Montenegro, pedagogical supervisory services come under the responsibility of the Centre for General Education (CGE), which was officially established in the first quarter of 2004. They have broadly similar terms of reference.

These services are still being developed in both Republics, but it is clear that the project has already played an important role in building their capacities to advise on active learning. In the Montenegro, for instance, all of the elementary school pedagogical advisers have been trained in AL, while a substantial proportion has as been trained in Serbia. For the future, it is important that the project work closely with the advisers, for two reasons. First, they are an important resource for providing advice and support to teachers. We recall teachers who have been trained by the project report on the one hand receiving relatively little support from pedagogical advisers following training, while on the other highly appreciating that support. Pedagogical advisers can play a critical role in addressing difficulties that teachers experience and helping them to improve the quality of teaching-learning practices. Second, in both Republics, pedagogical advisers will be called upon to provide advice as to whether teachers are ready for promotion. If advisers are not familiar with active learning, or do not value it, teachers will clearly be constrained in practicing active learning; this is discussed further below.

There are two measures, which UNICEF and the project might support in order to promote better integration and the development of quality support on the part of pedagogical services. First, all pedagogical advisers that have not yet been trained in AL should go through the process on a priority basis. Second, the project should cooperate with the authorities in the Serbia and Montenegro to develop methods and instruments for observation and feedback that are compatible with AL, helpful, and ensure a high degree of inter-rateability. In both Republics, pedagogical advisory services are hindered from providing support on teaching-learning processes by a lack of articulated methods and associated instruments for observing, judging and advising on the quality of the teaching-learning process. The process and instruments of sequential analysis can provide a basis to begin discussions between the project and the advisory services in the development of

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such methods and instruments. Once there is initial agreement in this area, there will be a need for a team of advisers to develop and test the classroom observation instrument, and ensure that it is inter-rateable (i.e. that two different observers will rate the class in a similar fashion).

One can also note that each Republic has an inspection service. It is important that those inspectors responsible for observing class preparation, teaching-learning processes, and teaching schedules also be trained in active learning. If inspectors are not trained in AL, or do not agree with it, teachers might be constrained in implementing active learning.

b. School self-evaluation. This will cover many areas, including:

1. Monitoring of the implementation of educational standards;
2. Supporting teachers and other educational professionals (e.g. providing feedback on the quality of their work, promoting their professional development, establishing professional networks);

This is a rich area of opportunity for the project. Colleagues can be a major source of positive support. Indeed, teachers trained by the AL project report that school-level colleagues (including teachers, pedagogues and psychologists) are the largest source of support in implementing AL. Further, when asked to rate the factors that shape everyday work in the classroom, teachers rated “discussions and cooperation with colleagues” 4.07 on a scale of 1 to 5. Among the teachers interviewed, those trained to supervision level rated this factor higher (4.27) than those trained to basic (3.93) or those teachers not trained by the project (3.89), indicating that appreciation of the importance of colleagues grows as one progresses through the project training and application process.

As part of the curricular reforms, there are some initial initiatives under way to promote professional support networks. In the Serbia, for instance, the Department responsible for pedagogical advisers is developing a network of 32 schools (2 per region, plus 10 in Belgrade) to pilot a system for self-evaluation. One can note that the network will be made up largely of schools that are already trained in active learning, as the Department Director has found that the teachers in these schools have changed their thinking about teaching-learning practices and have begun to apply modern child-centred methods – yet another instance of the project’s impact. The self-evaluation will be based initially on the use of checklists of matters to consider in terms of quality, against which a school can carry out its own self-evaluation. The schools will also be encouraged to establish networks to facilitate exchanges between teachers and the schools to promote quality.

The project should work with incipient network initiatives such as this and help to build others, particularly to provide a framework for self-assessment and subsequent analysis and discussion, and to ensure that network members have access to a catalogue of approved scenarios. As with the discussion above on pedagogical advisory services, the scenario and sequential analysis process and tools would be a useful starting point. In particular, the project might consider supporting on a pilot basis the periodic “live” observation of classes by colleagues, as well as the regular meeting of teachers to analyse written scenarios, conduct sequential analyses of recorded classes, exchange experiences, develop solutions to problems facing the implementation of active learning, and carry out action research on particular pedagogical issues of interest. The support should be given to networks where there is already a critical mass of teachers trained to supervision level, including a certain number of instructors. Where it provides support, the project should establish norms for network practices (e.g. regularity and agenda of teacher meetings, the presence of a qualified facilitator). However, the networks must operate with an informal atmosphere, to build mutual trust and respect among the colleagues. Where desired by the networks, pedagogical supervisors should participate in some of the network meetings. Project support could take the form of covering costs for transport, meeting and conducting research, as well as providing technical assistance.

In Serbia, the networks should be based in the existing Regional Centres, which can already offer

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20 See “System for Evaluation and Assessment of the Quality of Education. Proposal for Changes and Innovations”.
21 See “Centre for Education Evaluation report”, questionnaires 2A and 2B.
22 Interview with Director, September 24, 2004.
23 Ibid.
a core of trained teachers to form the basis of the network, as well as instructors who can facilitate network meetings. In Montenegro, there will be a need to identify schools where the network can be based. At most, three are required, one in Podgorica, one in the north, and the other in the south. They should be chosen for their location (as others will have to travel to the school), a sufficient number of trained teachers, and the presence of qualified facilitators.

c. External examinations. The design and the organisation of administering external examinations will come under the responsibility of the newly established National Evaluation Centre in the Serbia, and a department of the Centre for General Education in the Montenegro. As what gets measured has an impact on what is valued and produced, it is important for Active Learning that any new external examinations measure those higher-order skills that the project is trying to foster. Teachers and parents value highly how well students perform on external examinations, so if these skills are required to perform well on examinations, this will introduce a powerful incentive to teachers to adopt active learning techniques.

H.3 Professional development

The success of the reforms relies heavily on teachers. They are predicated upon a new role of the teacher that should prove exciting and liberating for many, but at the same time demanding. As the Deputy Minister in Serbia has argued, the new curriculum conception offers to teachers “independence and flexibility in their approach, responsibility in their selection of program contents through which the planned outcomes should be achieved by students … creativity in the method of creating learning situations, understanding of the nature of learning, thinking and feeling, constant re-examination of their own teaching practice and the grading methods that encourage learning, innovation in finding additional teaching materials ….” 24 With so many opportunities and demands, there is a strong need for professional development.

Each Republic has established new institutions and norms for professional development. In the Serbia, the government has established The Centre for the Professional Development (CPD) for Education Employees. As pointed out in the Law on the Foundations of the Education System from the year 2003 (article 21), i.e. The Law on the Amendments of the Law on the Foundations of the Education System form June 2004, the Centre shall perform inter alia expert tasks referring to:

1. The development, monitoring and assurance of the quality of work and the expertise of teachers, preschool teachers, professional support staff and principals in preschool, primary and secondary education;
2. The standards of the knowledge, skills and abilities required for the teaching profession and for professional development; and
3. The licence and the licence register; accreditation and evaluation of professional development programmes.

In the Montenegro, professional development comes under the responsibility of a department of the Centre for General Education.

a) Change the curricula in teacher training faculties.

The Active Learning project focuses on in-service training. Consequently, the review team did not investigate pre-service teacher training programmes directly, and how these might affect active learning at the primary level. However, one can note that during field missions the review team heard repeatedly from trainers and teachers alike that pre-service training constitutes an important constraint on introducing active learning. Further, Regional Centre Coordinators rate pre-service training overall neutrally in terms of how well it prepares teachers well for working for children. In some areas – knowledge of the different types of student activities, the teacher’s tasks and duties, and the elements of the education process – they rate pre-service training negatively. Project instructors rated pre-service training somewhat more positively, but just above neutral.

These findings are in keeping with the conclusions of the expert group on teacher training, which found that “outdated pedagogical concepts dominate the university faculties and colleges that train teachers. Characteristically, they insist

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24 The Relationship between the Curriculum Conception and Other Reform Areas. Annex 1 of the “Policy for Curriculum Development in Obligatory and Secondary Education”. p.31.
on traditional teaching methods and on fact-oriented knowledge. At the same time they neglect interactive and active forms of work in the teaching process and fix on rote memorisation of what is being taught”。 This is reinforced during practical training when student-teachers follow the “model of imitation” of experienced teachers, who themselves often practice lecture-based forms of teaching that impose a passive and largely listening mode of learning on the student.

While it is not, as noted, the main thrust of the project to reform pre-service teacher training, it has nonetheless spawned some initiatives at this level. For instance, one of the project authors is overseeing a university colleague who is training chemistry students (who will eventually teach in elementary schools) in active learning techniques. Similarly, in Užice the regional teacher training centre is working closely with model schools on active learning for teacher trainees. These initiatives should be encouraged to continue. Further, all such initiatives should be catalogued, and the main actors should meet to discuss how these initiatives can best be inserted in the dialogue on reforming pre-service training.

b) Train teachers in the new roles expected of them as part of curricular reform.

A curricular reform training was delivered by the Serbian MoES to Grade One teachers in 2003, in preparation for the 2003-2004 academic year. It covered various components including the development of school programmes, evaluation, and child-centred teaching-learning practices. The training content for teaching-learning practices was designed by the department in the Ministry responsible for teacher professional development, the team responsible for curriculum reform, and some NGO representatives.

The national curricular reform training is a good instance of the impact the active learning project had on the reform process. Certain aspects of the training were inspired by active learning methodology and materials. Some of the trainers who delivered the training were also Active Learning trainers.

There is also some indication that those teachers who had already completed Active Learning training were particularly productive participants.

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### Graph H.2 Participant rating (scale 1-5) of Grade One Curricular Reform Training

<table>
<thead>
<tr>
<th>Quality of training materials</th>
<th>Instructor readiness to answer questions</th>
<th>Instructor readiness to convey content and organise activities</th>
<th>Possibility of applying what is learned in classroom</th>
<th>Compatibility of covered topics and time allocated</th>
<th>Significance of selected topics and content for practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trained to AL supervision level</td>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

in the curricular reform training. As two different trainers of the national training put it, these teachers were more receptive to the ideas of the curricular reform, and had a clearer understanding of what was intended by making the teaching process more learner-centred. This is confirmed by survey data, which show that participants who were trained to AL supervision seminar level tended to rate the training more highly.  

26 (Graph H.2) This was particularly true when asked to rate the possibility of applying the training in the classroom (as opposed to other questions pertaining to the quality of the materials and the instructors).

The survey data also show that the respondents on the whole were neutral about the training, in contrast to the very positive assessment of AL seminars; this is to the project’s credit. (Graph H.3). (This may also suggest that the Serbian MoES should review the curricular training before extending it to other teachers). One can further note that the fact that teachers preferred the AL training shows that the respondents discriminated in their responses. The largely favourable responses to the AL training were not indiscriminating positive reaction to any question given.

The national curricular reform training also provides further opportunity for integrating active learning into the educational system in the short term. In particular, in each of the next five years, a next wave of teachers in Serbia and Montenegro will be trained in the new curriculum (as happened this year in Serbia), including active learning. Given that prior participation in active learning seminars seems to improve participation in and understanding of the national curricular reform training, the governments of Serbia and Montenegro might consider giving priority during the coming years to providing Active Learning training to those teachers scheduled for curricular reform training. Further, the training design team from both Ministries might usefully review the module on active learning in the national curricular reform training with project representatives, to see if any revisions or improvements in the national training might be envisaged. In the Republic of Serbia, there is extensive use of AL trainers to deliver the curricular reform training. The Centre for General Education in the Montenegro should also consider using AL trainers for the delivery of the reform training.

c) Establish regional centres for professional development.

In Serbia, it has been decided that regional centres will be established. They will focus on the following operational tasks:

1. Provide training courses, fulfil other tasks in connection with the professional development and make their services known to all the stakeholders. That is, the centres would provide a venue for independent service providers accredited by the MoES to provide training, and make schools aware of such opportunities. The centres might also facilitate the provision of in-service courses designed by the Ministry, such as the curricular reform course given to Grade One teachers in 2003.

2. Run resource centres and publish teaching materials and documents for the further development of teaching practice

3. Evaluate the training courses and collect data on them.

Operating costs of the centres (including salaries, utilities, maintenance and so forth) will be funded primarily by the Municipality where the centre is located. However, because the catchments area for any given centre will cover more than one municipality, it is hoped that there will be some cost-sharing between municipalities. It is planned that eventually there will be 12 regional centres, one to coincide with each of the territories of the twelve educational regional authorities. The courses to be offered at the centres, will be those that are accredited by the CPD. As noted above, the AL training is accredited. The schools will pay for their teachers to attend the courses, with funds that should be provided by the municipality (see discussion on financing).  

27 Working through the regional centres is thus an important future possible source of income for independent service providers, including possibly the Active Learning project and its trainers. This system of providing in-service training has yet to be tested. Given demand for the AL project and its decentralised capacities to provide courses, the project could be used as a service provider to test how well the financial, supervisory, administrative and informational mechanisms of this system operate. Of course, this will mean that schools – using funds from the Municipality – will have to pay for the teacher’s participation. In light of the

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26 The full results can be found in the Centre for Education Evaluation report.

27 The schools receive these funds from the municipality, which therefore is indirectly financing the in-service training. However, it is the schools that control how the money is spent and thus demand for in-service training is driven by teachers and schools.
financial difficulties facing some municipalities (see Section J.3), particularly the poorest, the Review Team recommends that any pilot testing be focused on the wealthier municipalities so that in the first instance. As long as UNICEF continues to finance teacher participation in seminars, teachers should be targeted who work in the poorest municipalities or with other disadvantaged groups.

The system for in-service training is organised differently in the Montenegro. The courses that teachers will attend will be decided upon, delivered and financed by the in-service training department of the CGE. This department is quite new in Montenegro, and it is currently occupied with delivering the curricular reform training to teachers who will be working in the first wave of schools implementing reforms. It has recently decided also to give the Step-by-Step training to “first wave” teachers.

The project should cooperate with the new Director of the in-service training department in Montenegro, and explore possibilities for integrating the active learning training in the future into the training offered by the CGE. There are three areas that should be explored. First, active learning might usefully be fully integrated into the reform training course, for which the AL training modules already provide a good basis. Second, the CGE might consider using AL trainers, who have a proven track record. Third, the CGE might consider offering the full Active Learning training to teachers who have not yet been trained in AL, as this training has been shown to increase teachers’ openness, willingness and ability to implement reforms. Given the widespread coverage of teachers in Grades 1-3 already achieved by the project, the future focus should be on subject teachers.

While working through the regional CPDs in Serbia and the Centre for General Education in Montenegro seem an obvious and promising route for furthering the activities of the Active Learning project, one must not overlook other opportunities of in-service training.
These include:

a) **Seminars provided by teacher training faculties and teachers associations to practicing teachers.**

While the Review Team did not examine these, the Serbia expert group concluded that these fora have traditionally not “developed any teaching methods practicum through which the teacher would create and test new and adequate method approaches, specifically with a view to shifting the focus of the instruction from teaching to learning, from teacher centred to child-centred education.”

It may be useful for the project to meet with members from the teacher training faculties and teachers associations, to present the methods and results of the project and discuss the possibility of promoting active learning in these bodies.

b) **Teacher Networks.**

There is some consideration being given at the Ministry of Education of Serbia as to how formally to promote and integrate teacher networks into professional development and to allocate some of the funds for professional development either from the Republican or municipal governments. The Review Team has identified post-training support as a key concern for the project, and a potentially productive area in which to work in the future. At the same time, the interest of the MoES and CPD in developing school networks provides an opportunity for active learning; there are similar opportunities in Montenegro. As discussed above, the project might therefore work with the Ministries of Education and their relevant departments to support pilot initiatives in developing teacher networks. The main terms of reference of such a network would be to conduct sequential analyses of members’ lessons, conduct scenario analyses, exchange scenarios and experiences, develop solutions to problems facing the implementation of active learning, and conduct action research. If participation in the network is formally to be linked to professional development, it would be necessary to stipulate in detail what activities its members would have to undertake annually, and the Ministries would reward full participation with points toward professional advancement. Further, the Ministries would have to undertake some formal monitoring of participation in the network, and there would be some obligation on the part of the Ministry or the school (using Municipal funds for professional development) to cover network costs. It has already been recommended that the project support these networks financially, on a pilot basis.

c) **Define the criteria/requirements for teachers’ professional promotion.**

Until recently, in-service training was neither obligatory nor linked to professional promotion. However, the recent Law on the Foundations of the Education System in Serbia from 2003 and the Law on the Amendments on the Law on the Foundations of the Education System from 2004 has linked professional development and advancement.

With respect to professional development, as stipulated by Article 116 of the Republic of Serbia the Law on the Foundations of the Education System: “teachers, preschool teachers or professional support staff shall have the duty of professional development in order to more successfully realise and improve educational work”. They may progress through four levels - pedagogical advisor, mentor, instructor, and senior pedagogical advisor – and will have the right to increased remuneration for each acquired title. The new law allows teachers three days leave annually for the purpose of professional development. According to the new Regulation on Continuous Professional Development and the Acquisition of the Titles of Teachers, Preschool Teachers and Professional Support Staff of February 9, 2004 – the areas of work in which the teacher will be evaluated are:

1. Planning and programming of educational activities
2. Teaching, i.e. learning
3. Monitoring and evaluation of pupils
4. Giving support to pupils
5. Cooperation with parents and the social community

In the area of planning, the criteria of attainment include:

1.1 Creates stimulating learning environment;
1.2 Synchronises aims, contents, methods of work and expected outcomes; links contents within the school curriculum horizontally and vertically;
1.3 Plans monitoring and evaluation of pupils’ achievements and self-evaluation;

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28 Expert Group Paper on Teacher Training, p.13
29 “The Law on the Foundations of the Education System in Serbia” from 2003 have been amended by “the Law on the Amendments on the Law on the Foundations of the Education System”. However, the general provisions on professional development and advancements have not been changed.
30 The change of this Regulation in order to harmonise it with the Amended Law is currently underway.
1.4 Plans and programmes educational process in a team;
1.5 Respects individual characteristics and needs of the development level of every individual pupil in the course of preparation and planning of educational activities;
1.6 Examines needs of parents and the social community and, accordingly, plans the cooperation with them;
1.7 Constantly follows the development of the area which he/she teaches and plans the classes in accordance with the novelties.

In the area of teaching, the indicators of attainment include:

1. Applies various methods, activities and forms of work;
2. Individualises teaching, i.e. learning;
3. Enables active participation of pupils in the process of teaching, i.e. learning;
4. Encourages pupils’ motivation for learning;
5. Encourages and develops a sense of personal responsibility for learning;
6. Encourages and uses various media in teaching;
7. Respects individual characteristics and needs of the development level of every individual pupil in the process of teaching, i.e. learning;
8. Links the knowledge of the discipline he/she teaches with the knowledge from other disciplines and with the pupils’ extracurricular experience;
9. Is a positive role model to pupils in ways of thinking and doing researches within the discipline he/she teaches;

It is clear that some of these criteria require amplification, and the project may be able to provide some assistance in developing more precise indicators for measuring such criteria of attainment as “creates stimulating learning environment”, “active participation of pupils”, “encourages and develops a sense of personal responsibility for learning”, or “encourages interactive learning”. Not only does the project have some expertise in this area, but given the importance of professional incentives to apply active learning, it also has an interest to assist in the development of indicators. There may also be room for the project to cooperate with the Centre for Professional Development in the development of the tools that teachers, advisers and colleagues will use to observe teachers as part of the process determining professional advancement.

Similar mechanisms governing professional advancement are being developed in the Republic of Montenegro, and this should be monitored by the project. Again, where feasible, the project should work with the CGE in the development of criteria and observation tools.

e) Compile an overview and analysis of the existing networks of current training programmes and trained teachers

This milestone was first achieved in 2002 when Serbian MoES published a catalogue of accredited courses for professional training. The Active Learning project was included in the catalogue, and this is an important achievement of the project; along with the Ministry’s recommendation that teachers consider this training in particular, the accreditation led to a substantial increase in awareness and demand for the active learning training. It should be noted that the first edition of the catalogue was based on a documentary review of the various training courses available, rather than the results of formal evaluations of the content and quality of the courses. In future, the Ministry plans to follow a more rigorous process of accreditation for courses. This will be based on an evaluation framework to be worked out by the CPD and the Centre for Evaluation.

H.4 Governance and decentralisation

Regional education authorities

Under the 2003 Law on the Foundations of the Education System (and the Law on the Amendments), regional education authorities have been established. These organisational units have been “formed in the Ministry for performing (certain) tasks outside the Ministry seat ...” (Article 28)\(^3\). These include:

1) Conduct pedagogical supervision in institutions;
2) Coordinate the professional development of teachers, preschool teachers, professional

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\(^3\) The translation Education Authority is somewhat misleading, as it implies autonomous authority. However, these bodies are designed to be arms of the Ministry, rather than autonomous decision-making bodies.
support staff and institution principals and secretaries;

3) Provide support to school development planning, the development of the curriculum and education quality assurance;

4) Participate in the preparations of the education development plan for the area for which the regional school authority has been organised and monitor its implementation; and

5) Maintain and update the education database and take care of uninterrupted data flows within the unique Ministry information system.

The regional authorities are in the process of being established, so it is as yet unclear what role they will play in the future of the project. Nonetheless, given their responsibilities, it will be important for these authorities to be aware of the project. In many cases, regional authority staff will already be familiar with the project, but where this is not the case, it might be helpful to target key staff for attending an awareness-raising seminar on AL.

School governing board

All schools should by law have a governing board, made up of nine members including the chairperson (Article 53), all of whom are to serve four year terms. The board is made up of three representatives each of the employees, parents and unit of municipal government. The representatives of the employees and the parents are proposed respectively by the teachers’ and parents’ council, though they must be approved by the unit of municipal government. A representative each from the students’ assembly and teachers’ union should attend board meetings, but without decision-making power.

In the law’s listing of rights that shall be considered as representing institutional autonomy, the school board has the right to plan “the qualification and professional development of teachers, preschool teachers and professional support staff”, (Article 43). The school principal has particular responsibilities in regard of professional development. According to the law, the principal must take care of quality assurance and the advancement of educational work; organise and implement pedagogical-instructive insight and supervision; take measures for the improvement and promotion of the work of teachers, preschool teachers, and professional support staff; and plan employee professional development.

While the school governing body can be considered a decentralised body, there are certain limitations. It can recommend a candidate for school principal (following competition), but the candidate must be approved by the Minister. Similarly, while the parents’ council and teachers’ council can recommend representatives for the board, these must be approved by the municipality.

The Active Learning project might be well advised systematically to design and target awareness-raising seminars for those board members who may not be aware of the project, that is, parents and members representing the municipality, as well perhaps as union representatives. Targeting board members is particularly important because, even though the funds for professional development are to come from the municipal level (aside from obligatory national programmes), the decision as to what programmes to follow will be taken at the school level.
Concluding Remarks

The governments in both Republics are reforming their education systems. The Active Learning project has addressed important areas of the reforms, not only through the introduction of active teaching-learning processes, but also by enabling teachers to identify and promote the achievement of educational outcomes, integrate curricular material around outcomes, improve the quality of students’ knowledge, promote the higher-order skills which are now given greater prominence, and to prepare children to actively and responsibly participate in democratic, economic and cultural life. As a result, Grade One teachers that have been through the Active Learning training are more open to curricula reform measures.

Quality assurance is an important area of reform for the Active Learning project. Here too it has made a contribution by training pedagogical advisers and inspectors in both Republics; and by establishing the regional centres, which could form the basis of teacher networks. This is an area of rich opportunity for the project, as pedagogical advisers and teacher networks are an important resource for providing support to teachers in active learning, and in some instances inspectors and advisers will be called on to comment on the quality of teaching–learning processes. The project should consider working further with the pedagogical advisory services to enable them to provide support, including through the development of criteria of quality teaching-learning processes and the methods and tools for classroom observation. The project should also consider supporting the development of teacher networks, which would focus on classroom observation, regular teacher meetings to analyse written scenarios, sequential analysis, the exchange of experiences, the development of solutions to problems of implementing active learning, and carrying out action research. Another mechanism of quality assurance is external exams. In future, educational authorities in both Republics should consider designing them so as to measure how well children have mastered the higher order learning skills that Active Learning promotes in particular.

Teachers are being prepared for the reforms through in-service curricular reform training. In the Republic of Serbia, Grade One teachers trained in Active Learning found the curricular reform training to be more applicable, indicating that the project has helped to improve the effects of the training. Professional development is also being reorganised in both Republics. In the Republic of Serbia, all teachers are now obliged to devote a certain number of hours every year to professional development, including following in-service training courses. The Ministry has accredited a certain number of courses for this purpose, including the Active Learning seminars, which have also been particularly recommended by the Ministry. In future, training courses will be hosted by regional Centres for Professional Development, and the project should consider participating in a pilot experience to test how well the administrative and financial mechanisms work in the new system. There is concern as to how well municipalities, which are financially responsible for teachers’ professional development, will be able to fund in-service training, particularly the poorer municipalities. In the Republic of Serbia, in-service training continues to be managed and delivered by the Ministry, through the newly established Centre for General Education. While all class teachers in the Republic of Montenegro, have already been trained in Active Learning, there is room for co-operation between the project and the CGE to ensure that in future, subject teachers are trained in Active Learning.
SECTION J

PROJECT COSTS, FINANCING AND ECONOMIC CONTEXT

Introduction

This section describes how costs have been shared by the project partners, and estimates the cash costs of materials and training. It is then estimated what it will cost to achieve full coverage, and how long this will take. The issue as to who will bear the future costs is also discussed. This entails an analysis of how education financing is managed in each Republic, as well as of the constraints imposed by the economic context and overall education spending.

J.1 Project Costs

The costs of the project have been shared by the major partners. The project team has contributed significant amounts of time to developing the project, including the Active Learning manual and training packages, as well as to ensuring quality and providing technical assistance to the Regional Co-ordinators. The Co-ordinators have contributed significant time to organising training and co-ordinating Active Learning activities in their area. Project trainers often donate their time after training to provide some follow-up support to teachers. The Ministries and municipalities have contributed the facilities for training, as well as granting permission for teacher participation. Seminar participants have contributed their time.

There have been certain cash costs. As the project’s ability to cover these cash costs will determine whether or not a project can continue, more detailed attention is given to these. There are two main categories: materials and training.

Materials. The project has supplied:

1. Office equipment, materials and stationery
2. Teaching-learning materials and school supplies to schools that have either acted as project regional centres or have worked on the development of specific programs.

The supplies have been provided to different categories of schools:

1. Regional Centres (full status - that is, conducting AL training seminars)
2. Regional Centres (partial status – that is, conducting seminars yet not having the full complement of instructors)
3. School candidates for status of Regional Centre
4. Model schools developing specific AL programs (such as for multi-grade or bilingual situations, Roma children)

Table J.1 – Cost of supplies and equipment in schools in the Republic of Serbia

<table>
<thead>
<tr>
<th>Category</th>
<th>Supplies and equipment</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Centres of active learning (full status)</td>
<td>117,505.41</td>
<td>20,208.01</td>
<td>137,713.42</td>
</tr>
<tr>
<td>Regional Centres (partial status)</td>
<td>131,761.92</td>
<td>20,921.54</td>
<td>152,683.46</td>
</tr>
<tr>
<td>Schools – candidates for the status of the Regional Centre</td>
<td>80,333.49</td>
<td>19,789.04</td>
<td>100,122.53</td>
</tr>
<tr>
<td>Model Schools (developing specific programs)</td>
<td>25,262.18</td>
<td>26,603.01</td>
<td>51,865.19</td>
</tr>
<tr>
<td>Total (USD current)</td>
<td>354,863.00</td>
<td>87,521.60</td>
<td>442,384.60</td>
</tr>
</tbody>
</table>
Each Regional Centre received a photocopier, audio-visual equipment, and a computer, as well as a stock of consumables; training materials, including the AL manual and posters; books for school libraries; equipment for chemistry classes; microscopes; and some sports equipment.

The supplies provided to model schools was further distributed to schools for in-house training, or used for training seminars in schools covered by model schools.

The total costs of these supplies (as at end 2003) have been USD 442,384.60 (for the Republic of Serbia). More details are provided in Table J.1.

The Review Team visited five of the regional centres in the Republic of Serbia, and observed in each of them that the equipment and materials were being used. Co-ordinator reports also confirm that the computers are being heavily used. With respect to recurrent costs associated with equipment, the project has not financed these beyond the initial supply of consumables, and this does not seem to have hindered the equipment continued use. Approximately half of the Regional Centre Co-ordinators report that the office supplies received were sufficient, while two thirds report that they suited the needs of the school.32

Training. While the project has provided numerous types of training, this section focuses on the costs for the basic (three-day) and supervision (two-day) seminars. These are the core seminars of the project which teachers must complete in order to be able apply active learning. There are two methods for estimating the per-teacher costs of basic and supervision training. The first method uses project norms for participant numbers, remuneration levels, per diem’s, and transport and food/refreshment costs. The second method uses costs actually incurred for a sample of recent seminars.

It is worth contrasting the two. The first is commonly used to plan expenditures (see e.g. G17 INSTITUTE report). However, an analysis of a sample of recent seminars (the second method) shows that costs are substantially different from what norms would indicate, and this provides a more accurate of future needs.

The basic seminar. According to the first method, the cost of a basic seminar can be estimated based on the following norms:

1. It lasts three days
2. There are two trainers. They live locally and do not receive a DSA, though they incur travel costs for which they receive USD 10. Their fee is USD 30 per day. So the total cost of a trainer is USD 100.
3. There are 30 participants. They live locally, and it costs USD 10 per day to cover the costs of stationery, refreshment, food and travel.

The costs of a basic seminar are therefore:

<table>
<thead>
<tr>
<th>Basic three-day seminar (in school)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fees for trainers (2 trainers * 3 days * $30.00)</td>
<td>$180.00</td>
</tr>
<tr>
<td>2. Travel costs for trainers (2 trainers * $10.00)</td>
<td>$20.00</td>
</tr>
<tr>
<td>Refreshment, food and travel costs for 3. participants (30 participants * 3 days * $10.00)</td>
<td>$900.00</td>
</tr>
<tr>
<td>Total costs per seminar</td>
<td>$1,100.00</td>
</tr>
<tr>
<td>Costs per participant</td>
<td>$36.67</td>
</tr>
</tbody>
</table>

According to the second method, one can note that: 33

1. The basic seminar lasts three days.
2. There are two trainers. The average cost per trainer for the seminar is USD 121.79. This is substantially more than the norm-based estimate of USD 100 per trainer. The difference is accounted for by the fact that often trainers have not lived locally, and there have thus been DSA (USD 40 per day) and travel costs exceeding USD 10.
3. The average number of participants at a basic seminar is 31. The average cost per basic seminar per teacher for the stationery, food/refreshments and travel for teachers was USD 20.89. This is substantially less than the norm of USD 30. The reason here seems to have been that actual costs for these items have been lower than what was originally estimated.

32 Centre for Education Evaluation Report.
33 This is based on a sample of 130 recent basic seminars. The number of participants ranged from 21 to 46, with an average of 31.
The actual costs of a basic seminar have therefore been:

Trainers
(two trainers at USD 121.79 each): 243.58
Teachers
(31 participants at USD 20.89 each): 647.59
Total costs per seminar: 891.17
Cost per participant: 28.74

The supervision seminar. The costing norms for this seminar are as follows:

4. It lasts two days
5. There are two trainers. They do not live locally and so receive a DSA of USD 40 as well as travel costs of USD 10. Their fee is USD 30 per day. So the total cost for a trainer is USD 150.
6. There are 30 participants. They live locally, and it costs USD 10 per day to cover the costs of stationery, refreshment, food and travel.

The costs of a supervision seminar are therefore:

<table>
<thead>
<tr>
<th></th>
<th>Supervision two-day seminar (in school)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSA's and fees for trainers</td>
<td>$280.00</td>
</tr>
<tr>
<td>(2 trainers * 2 ways * ($ 40.00 + $ 30.00))</td>
<td></td>
</tr>
<tr>
<td>Travel costs for trainers</td>
<td>$20.00</td>
</tr>
<tr>
<td>(2 trainers * $ 10.00)</td>
<td></td>
</tr>
<tr>
<td>Stationery, travel costs and refreshment for participants (30 participants * 2 days * $ 10.00)</td>
<td>$600.00</td>
</tr>
<tr>
<td>Total costs per seminar</td>
<td>$900.00</td>
</tr>
<tr>
<td>Costs per participant</td>
<td>$30.00</td>
</tr>
</tbody>
</table>

However, if one looks at actual practices and costs incurred (the second method), one arrives at the following estimate:

1. The supervision seminar lasts two days
2. There are two trainers. The average cost per trainer for the seminar is USD 75.38. This is roughly half the norm-based estimate of USD 150 per trainer. The difference is largely accounted for by the fact that for more than half of the supervision seminars studied, one of the trainers was local, and so did not receive DSA or travel costs.

3. The average number of participants at a supervision seminar has been 32. The average cost per advanced seminar per teacher for the stationery, food/refreshments and travel for teachers was USD 14.36. This is less than the norm of USD 20, and again seems to be due to savings or over-estimates for the norms.

The actual costs of a supervision seminar have therefore been:

Trainers
(two trainers at USD 75.38 each): 150.76
Teachers
(32 participants at USD 14.36 each): 459.52
Total costs per seminar: 610.28
Cost per participant: 19.07

Table J.2 Training costs per teacher (USD current)

<table>
<thead>
<tr>
<th></th>
<th>Estimates based on:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>norms</td>
</tr>
<tr>
<td>Basic</td>
<td>36.67</td>
</tr>
<tr>
<td>Supervision</td>
<td>30.00</td>
</tr>
<tr>
<td>Total</td>
<td>66.67</td>
</tr>
</tbody>
</table>

Source: based on UNICEF data

The total cost of training a teacher in active learning can now be calculated, and it can be seen (Table J.2) that there is a substantial difference between the two methods. Using project norms, it costs USD 66.67 to train a teacher; whereas actual recent figures indicate that the cost was USD 47.81. Using this actual figure, one can estimate that the total costs of basic and supervision seminars held in Republic of Serbia and Republic of Montenegro during the period 1996-2000 have been USD 831,786 of which 633,458 were spent on basic seminars and 198,328 on supervision seminars. Further details on the breakdown between the Republic of Serbia and Republic of Montenegro, are provided in Table J.3.34

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34 These figures are provided by the project. However, one should note that there is some inconsistency between the figures provided by the project and the figures generated by Centre for Education Evaluation based on the coordinators’ questionnaire. The costs have been calculated based on 31 participants per basic seminar at UsD 28.74 per participants and 32 participants per supervision seminar at UsD 19.07 per participant. The average participant numbers and costs are based on a sample of actual seminar participant lists and costs.
According to G17 Institute, citing figures from the Republican Statistics Bureau and the Federal Statistical Office, respectively. See G17 Institute report for details.

J.2 The cost of achieving full coverage

This section discusses how long it will take to train the country’s teachers in active learning, and what it will cost. There are 44,069 elementary teachers in the Republic of Serbia, and 5,003 in the Republic of Montenegro, for a total of 49,072.

In the Republic of Serbia, thus far, approximately 18,693 persons have attended the basic seminar, and 8,064 have attended the supervision seminar. However, these numbers need to be adjusted for repeaters, who account for 15% of participants, and for teachers who have left the profession since being trained (20% of participants). Making these adjustments, one finds that 13,085 and 6,451 teachers have passed the basic and supervision training, respectively (Table J.4). That is, as at the end of 2003, 30,984 teachers (or 70% of the total) had still to go through the basic training, and 37,618 (or 85%) through the advanced training.

Table J.3 Seminar numbers / estimated costs, by Republic (1996-2003)

<table>
<thead>
<tr>
<th>Basic seminars</th>
<th>Number</th>
<th>Estimated cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republic of Serbia</td>
<td>617</td>
<td>549,710</td>
</tr>
<tr>
<td>Republic of Montenegro</td>
<td>94</td>
<td>83,748</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>711</strong></td>
<td><strong>633,458</strong></td>
</tr>
<tr>
<td>Supervision seminars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Republic of Serbia</td>
<td>262</td>
<td>153,780</td>
</tr>
<tr>
<td>Republic of Montenegro</td>
<td>73</td>
<td>44,548</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>325</strong></td>
<td><strong>198,328</strong></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>1,036</strong></td>
<td><strong>831,786</strong></td>
</tr>
</tbody>
</table>

Source: project data. These do not include the one-day supervision seminars held in the Republic of Montenegro, of which there have been 197.

These costs compare favourably to norms used by the MoES. For instance, in 2003, the per participant costs for the three day curricular training financed by the Ministry was 4,260 CSD. At 56 CSD/USD, that amounts to USD 76.07 per participant for three days, substantially more than the 47.81 for five days AL training. If one deducts the taxes withheld from the trainers (which in effect return to public coffers), then the cost of the Ministry training is CSD 3,660 or USD 65.36.

Table J.4 Number of seminars and teachers trained (Republic of Serbia)

<table>
<thead>
<tr>
<th></th>
<th>1. number of basic seminars</th>
<th>2. number of teachers trained (basic)</th>
<th>3. number of supervision seminars</th>
<th>4. number of teachers trained (superv.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>14</td>
<td>0</td>
<td>2</td>
<td>64</td>
</tr>
<tr>
<td>1997</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>2</td>
<td>62</td>
<td>7</td>
<td>224</td>
</tr>
<tr>
<td>1999</td>
<td>64</td>
<td>1,984</td>
<td>12</td>
<td>384</td>
</tr>
<tr>
<td>2000</td>
<td>47</td>
<td>1,457</td>
<td>23</td>
<td>736</td>
</tr>
<tr>
<td>2001</td>
<td>219</td>
<td>6,789</td>
<td>121</td>
<td>3,872</td>
</tr>
<tr>
<td>2002</td>
<td>271</td>
<td>8,401</td>
<td>87</td>
<td>2,784</td>
</tr>
<tr>
<td><strong>Unadjusted total</strong></td>
<td><strong>18,693</strong></td>
<td><strong>8,064</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total adjusted for repetition and retirement relocation</strong></td>
<td><strong>910</strong></td>
<td><strong>13,085</strong></td>
<td><strong>351</strong></td>
<td><strong>6,451</strong></td>
</tr>
</tbody>
</table>

Note: Number of teachers is based on average number trained per seminar (31 for basic, 32 for supervision). The adjusted total is based on deducting those who repeated (15% of total) and those who have left teaching (20% of total, assigned 15%/5% to basic/supervision). The adjustment percentages are taken from the G17 report.

35 According to G17 Institute, citing figures from the Republican Statistics Bureau and the Federal Statistical Office, respectively. See G17 Institute report for details.
36 See G17 Institute report for details.
According to the G17 Institute report, there are 106 trainers, of whom 30 are qualified to do both basic and advanced seminars. The most active trainers are able to conduct twenty seminars per year, though the average is ten. Given the timely transition bottleneck identified earlier, one should assume that those trainers qualified to do supervision seminars devote themselves exclusively to these.

Thirty supervision seminar trainers conducting ten seminars each per year would enable the training of 4,500 teachers in one year. Let us assume that it would take the remainder of 2004 to clear the current backlog of 2,263 teachers who did the basic training in 2002 or before and have not yet received supervision seminar training. It would then take another two and a half years to train the 7,141 teachers who completed the basic seminar in 2003. That is, at current capacities, the project would have to suspend all further basic training until late 2006 just to clear the current stock of teachers who have done basic training and ensure there is no further addition to the timely transition deficit. This is clearly an unsatisfactory option, and highlights the urgent need to increase capacities for providing advanced seminar training.

It might be helpful to consider what advanced training capacities are required if current levels of basic training continue. G17 Institute has suggested that past trends indicate that there will be 186 basic seminars in 2004, 224 in 2005, 262 in 2006, concluding with 276 in 2007. Assuming that in future the seminar repetition rate is reduced from 15% to 10%, and that the total number of untrained teachers decreases by 1% annually (to take into account retirement and relocation), the number of teachers trained at basic level and requiring supervision training would be as indicated in Table J.5. This analysis indicates that all teachers will have passed through the basic training by early 2008. But how many supervision seminar trainers would be required to meet this schedule? One first

Table J.5 Estimated Future Basic Training Levels

<table>
<thead>
<tr>
<th>Year</th>
<th>Seminars</th>
<th>Trainers required</th>
<th>Teachers trained</th>
<th>Teachers remaining to be trained</th>
<th>Number of surplus basic trainers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td></td>
<td>30,984</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>186</td>
<td>37</td>
<td>5,189</td>
<td>25,485</td>
<td>39</td>
</tr>
<tr>
<td>2005</td>
<td>224</td>
<td>45</td>
<td>6,250</td>
<td>18,980</td>
<td>31</td>
</tr>
<tr>
<td>2006</td>
<td>262</td>
<td>52</td>
<td>7,310</td>
<td>11,481</td>
<td>24</td>
</tr>
<tr>
<td>2007</td>
<td>276</td>
<td>55</td>
<td>7,700</td>
<td>3,666</td>
<td>21</td>
</tr>
<tr>
<td>2008</td>
<td>132</td>
<td>26</td>
<td>3,683</td>
<td>0</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Notes: It is assumed that there is a 10% repetition rate, and that the workforce reduces by 1% annually. Trainers are assumed to do 10 seminars per year, with two trainers per seminar. The number of surplus basic trainers is calculated by deducting the number of trainers required from 76.

Table J.6 Schedule of supervision seminar training

<table>
<thead>
<tr>
<th>Year</th>
<th>Teachers requiring training</th>
<th>Trainers available</th>
<th>Seminars feasible</th>
<th>Teachers that could be trained</th>
<th>Teachers actually trained</th>
<th>Deficit in teachers to be trained, to carry over to next year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>9,404</td>
<td>30</td>
<td>150</td>
<td>4320</td>
<td>4320</td>
<td>-5,084</td>
</tr>
<tr>
<td>2005</td>
<td>10,273</td>
<td>45</td>
<td>225</td>
<td>6480</td>
<td>6480</td>
<td>-3,793</td>
</tr>
<tr>
<td>2006</td>
<td>10,043</td>
<td>54</td>
<td>270</td>
<td>7776</td>
<td>7776</td>
<td>-2,267</td>
</tr>
<tr>
<td>2007</td>
<td>9,577</td>
<td>51</td>
<td>255</td>
<td>7344</td>
<td>7344</td>
<td>-2,233</td>
</tr>
<tr>
<td>2008</td>
<td>9,933</td>
<td>60</td>
<td>300</td>
<td>8640</td>
<td>8640</td>
<td>-1,293</td>
</tr>
<tr>
<td>2009</td>
<td>4,976</td>
<td>60</td>
<td>300</td>
<td>8640</td>
<td>4976</td>
<td>0</td>
</tr>
</tbody>
</table>

Notes: It is assumed that there is a 10% repetition rate, and that the workforce reduces by 1% annually. Trainers are assumed to do 10 seminars per year, with two trainers per seminar. The number of surplus basic trainers is calculated by deducting the number of trainers required from 76.
needs to take into account the current backlog of 2,263 teachers who did the basic training in 2002 or before, along with the 7,141 teachers who completed the basic seminar in 2003 and should be trained as soon as possible. Further, one needs to analyse the number of basic trainers who could be trained to provide supervision seminars, thus increasing the pool of supervision seminar trainers. As shown in Table J.5 (above), from 2005 onwards (the earliest date at which basic trainers could be qualified as advanced trainers), there would be a maximum of 31 trainers who could be allocated to supervision training, diminishing to 24 in 2006 and 21 in 2008.

As worked out in Table J.6, it would take until 2009 to clear the substantial backlog of teachers trained to basic level, and ensure that teachers did not have to wait for more than a year to attend the supervision seminar. Further, all teachers would be trained by 2009. Having a substantial backlog of teachers not trained to advanced level on a timely basis until 2008 is not satisfactory. The project managers will have to grapple with this challenge, but it seems clear that a reasonable response is to sharply reduce the number of basic seminars in 2004 while markedly increasing the number of supervision seminar trainers. From 2005 onwards, the number of basic training can then be increased again. One such solution is provided in Tables J.7 and J.8. According to this more optimal solution, a further 20 basic trainers are trained to provide supervision seminars, bringing the total number of supervision seminar trainers available to 50 for the period 2005-2008; the number is increased to 61 for 2009. Further, the number of basic training is reduced to 100 in 2004, increased to 150 in 2005, 280 in 2006 and in 2007, and then brought down to 266 in 2008 to train the last batch of teachers. In this way, the backlog of untrained teachers at supervision level is substantially cleared by 2005, and all teachers are trained by 2009. Other

### Table J.7 A more optimal schedule for basic training

<table>
<thead>
<tr>
<th>Year</th>
<th>Seminars</th>
<th>Trainers required</th>
<th>Teachers trained</th>
<th>Teachers remaining to be trained</th>
<th>Number of surplus basic trainers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30,984</td>
</tr>
<tr>
<td>2004</td>
<td>100</td>
<td>20</td>
<td>2,790</td>
<td>27,884</td>
<td>56</td>
</tr>
<tr>
<td>2005</td>
<td>150</td>
<td>30</td>
<td>4,185</td>
<td>23,420</td>
<td>46</td>
</tr>
<tr>
<td>2006</td>
<td>280</td>
<td>56</td>
<td>7,812</td>
<td>15,374</td>
<td>20</td>
</tr>
<tr>
<td>2007</td>
<td>280</td>
<td>56</td>
<td>7,812</td>
<td>7,408</td>
<td>20</td>
</tr>
<tr>
<td>2008</td>
<td>266</td>
<td>53</td>
<td>7,421</td>
<td>0</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Notes: It is assumed that there is a 10% repetition rate, and that the workforce reduces by 1% annually. Trainers are assumed to do 10 seminars per year, with two trainers per seminar.

### Table J.8 A more optimal schedule of supervision training

<table>
<thead>
<tr>
<th>Year</th>
<th>Teachers requiring training</th>
<th>Trainers available</th>
<th>Seminars feasible</th>
<th>Teachers that could be trained</th>
<th>Teachers actually trained</th>
<th>Deficit in teachers to be trained, to carry over to next year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>9,404</td>
<td>30</td>
<td>150</td>
<td>4320</td>
<td>4320</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>7,874</td>
<td>50</td>
<td>250</td>
<td>7200</td>
<td>7200</td>
<td>56</td>
</tr>
<tr>
<td>2006</td>
<td>4,859</td>
<td>50</td>
<td>250</td>
<td>7200</td>
<td>4859</td>
<td>46</td>
</tr>
<tr>
<td>2007</td>
<td>7,812</td>
<td>50</td>
<td>250</td>
<td>7200</td>
<td>7200</td>
<td>20</td>
</tr>
<tr>
<td>2008</td>
<td>8,424</td>
<td>50</td>
<td>250</td>
<td>7200</td>
<td>7200</td>
<td>20</td>
</tr>
<tr>
<td>2009</td>
<td>8,645</td>
<td>61</td>
<td>305</td>
<td>8784</td>
<td>8645</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Notes: the seminars required takes into account a 10% repetition rate. The trainers available assumes that the number of supervision trainers is fixed at 36 for 2004, but that up to 20 more supervision trainers could be made available for 2005-2008 and up to 31 more supervision trainers for 2009.
options are, of course available, particularly if one increases the total number of trainers available. But planners must keep in mind the need quickly to clear the backlog of teachers who have been trained at basic level more than one year ago, and ensure that no new backlog emerges.

The more optimal solution presented here will entail two categories of future costs: the seminars, and increasing the number of trainers qualified to conduct supervision seminars. The basic and advanced seminars will cost $1,026,331 and $901,211 (current) respectively over the next 5-6 years, for a total cost of $1,927,543 (Table J.9). These estimates are based on the “actual cost estimate” of $28.74 per teacher for the basic seminar, and $19.07 per teacher for the supervision seminar, and inflated by 2% per year. It is at this stage that the significance becomes apparent of estimating costs based on actuals rather than norms. If one were to use the norm-based cost, the total bill comes to $2,720,715, approximately 790 thousand dollars more.

In order to realise this more optimal scenario, a further 46 supervision seminar trainers will have to be created from the stock of basic supervision trainers. This will require two “Training of Trainers” (ToT) seminars in 2004, which cost $5,840 each, for a total of $11,680. 37

In the Republic of Montenegro, the project provided 94 basic and 73 supervision seminars from 2000-2003, and trained approximately 2,800 teachers through to supervision level. All of the teachers in Grades One to Three have been trained, including a substantial proportion of those teaching maths and language. Of the approximately 2,200 teachers remaining, they are mostly subject teachers. Given that the project must increase the number of trainers who have teaching experience in particular subjects, and in light of current resource constraints, it will probably take another four years to cover the remaining 2,200 teachers. This will cost approximately USD 105,000.

J.3 Education financing and economic context

The Republic of Serbia MoES is designing significant changes to education financing mechanisms. At the centre of these will be a funding formula based on a certain minimum allocation per school, and then varied according to student numbers, school location, classes taught, and so forth. This formula is only indirectly relevant to the active learning project, in that formula-based central funding for schools will not cover curricular change, professional development or pedagogical supervision, the main areas of reform of relevance to active learning. Rather it will be used to determine how much money goes from the Republic budget to schools to cover mainly salaries and standard learning equipment. 38 Any impact of the formula on salary levels and school equipment will be of interest to the project, as the evaluation team found that these two factors are commonly cited by teachers as being important systemic constraints on implementing active learning.

It will be some years yet before the new system of decentralised financing is operational, and so it is important to have a general understanding of how education financing currently functions. It is also useful to understand the general economic context in which the education system, and the Active Learning project, operate. This sub-section includes brief descriptions and analyses of:

1. Financing mechanisms;
2. Amounts spent on education, including its distribution;
3. How professional development is financed; and

Financing mechanisms. This discussion gives greater attention to the Republic of Serbia, where education financing is more complicated, largely because municipalities have a larger financial responsibility for elementary education. Teachers’ professional development is included in this responsibility, whereas in the Republic of Montenegro this is covered by the Republican budget. Overall economic conditions have an impact on the Republican budgets in both the Republic of Serbia and Republic of Montenegro, but the situation of municipalities varies greatly

37 According to UNICEF data quoted in G17 Institute report.
38 See “Decentralisation of Education in Serbia” p.18.
within the Republic of Serbia, and this adds another dimension to consider for the future of the Active Learning project.

Elementary education is financed largely from two public budgets, central and municipal. As Table J.10 shows, over 90% of elementary education revenue comes from these two sources. The central budget accounts for approximately 80%, while municipal budgets contribute 10%. “Interests and other revenue” account for 6.2%; the former is interest on capital deposits while the latter is largely income derived from renting out school premises. “Revenue from services rendered” account for the remaining 2.9%, and includes income derived from consultancy and other services that staff provide on behalf of the school. On the expenditures side, the largest share goes to gross wages (78%), which is constituted of net wages/benefits (46.9%), contributions (21.9%) and taxes (9.2%).

Financing is governed by the Law on Foundations of the Education System.39 Passed in June 2003, it largely preserved the old system of elementary education financing.

The budget of the Republic of Serbia is devoted largely to salaries and benefits, though municipalities can apply to the Republican budget to cover costs it cannot afford. Further, there are funds from the Republican budget for professional development, but there are no spending norms in this area. Rather, the amounts allocated depend on particular needs (and available funds). A recent example has been the training of Grade One teachers in curricular reforms.

Table J.9 Costs of future training (USD current)

<table>
<thead>
<tr>
<th>Year</th>
<th>Seminars</th>
<th>Participants</th>
<th>Total cost</th>
<th>Number</th>
<th>Participants</th>
<th>Total cost</th>
<th>Total costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>100</td>
<td>3100</td>
<td>90,876</td>
<td>150</td>
<td>4800</td>
<td>93,367</td>
<td>184,243</td>
</tr>
<tr>
<td>2005</td>
<td>150</td>
<td>4650</td>
<td>139,040</td>
<td>250</td>
<td>8000</td>
<td>158,723</td>
<td>297,764</td>
</tr>
<tr>
<td>2006</td>
<td>280</td>
<td>8680</td>
<td>264,732</td>
<td>169</td>
<td>5399</td>
<td>109,259</td>
<td>373,991</td>
</tr>
<tr>
<td>2007</td>
<td>280</td>
<td>8680</td>
<td>270,027</td>
<td>250</td>
<td>8000</td>
<td>165,136</td>
<td>435,163</td>
</tr>
<tr>
<td>2008</td>
<td>266</td>
<td>8246</td>
<td>261,656</td>
<td>250</td>
<td>8000</td>
<td>168,439</td>
<td>430,095</td>
</tr>
<tr>
<td>2009</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>300</td>
<td>9606</td>
<td>206,288</td>
<td>206,288</td>
</tr>
<tr>
<td>Total</td>
<td>1,076</td>
<td>33,356</td>
<td>1,026,331</td>
<td>1,369</td>
<td>43,804</td>
<td>901,211</td>
<td>1,927,543</td>
</tr>
</tbody>
</table>

Notes: The number of seminars is based on calculation of optimal solution discussed above. The number of seminars and participants has been adjusted to take into account a 10% repetition rate. The per teacher cost was calculated above, and is adjusted here for 2% annual inflation.

Table J.10 Structure of the Republic of Serbia elementary education revenue/expenditure (2001, in %)

<table>
<thead>
<tr>
<th>Revenue</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budgets and funds</td>
<td>90.9</td>
</tr>
<tr>
<td>Interest and other revenue</td>
<td>6.2</td>
</tr>
<tr>
<td>Services rendered</td>
<td>2.9</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: G17 report, citing Republican Statistics Bureau

39 See G17 Institute report, p.16f.
The municipality is responsible for financing employee professional development, employee transportation, the transportation of certain pupils (disabled or living at a distance), teaching-learning materials, utilities, certain other recurrent costs, and minor construction and repairs. The monies for these items all derive directly from municipal revenues, and hence are dependent on local capacities to raise taxes. The new Law also allows school to obtain supplementary resources from parents’ contributions, donors, sponsors and the municipal government for the purpose of raising pedagogical standards beyond those minimally stipulated by educational authorities. These funds can be used to purchase teaching-learning equipment and materials, to provide more space, to realise educational programmes outside the activities of the primary school, as well as to provide food and assistance to pupils. “This means that schools could provide lacking resources for professional development programs for teachers and training of trainers that would work in professional development programs ... in particular from donations and sponsorships.” 40

There is a national rulebook that directs municipalities as to the amounts that should be spent on education. It needs to be updated in light of the new law on Education. The norms indicate how much to provide for utilities (depending on building size and so forth), while other items are calculated on the basis of gross salaries, as follows:

- 2.5% of gross salaries for teaching-learning materials;
- 3% of gross salaries for insurance, office supplies, phone bills, banking fees, hygiene, and other items;
- up to 1% of gross for teacher training and professional development.

Only the item for teaching training and professional development has a discretionary element (“up to 1%”). In practice, head teachers and school boards may take monies disbursed for one area and spend it in another. Further, it is reported that some municipalities do not follow these norms, and disburse funds instead based on some mixture of criteria, including past practice, the overall availability of funds, and some adjustments for inflation.41 As a result, actual disbursements may not change to match changing local needs. The Review Team recommends that the Ministry consider updating the rulebook on municipal norms for education spending. The discretionary component of professional development spending (“up to”) should be removed, and the percentage should be fixed according to what it costs (on average) for the teacher to fulfil his/her annual in-service training obligations (which are stipulated in the rulebook on professional development).

Using the figures above, one can estimate the maximum amount of municipal funding that could be made available by law for professional development given current salary level. The average monthly gross elementary school teacher salary is approximately 19,200, or 230,400 annually. Therefore the maximum amount annually that the municipality can disburse is 1% of this, or 2,304 CSD. This is the equivalent of USD 41.14 per teacher (at 56 CSD/USD). As calculated in Section J.1, it costs USD 47.84 for a teacher to participate in the basic and supervision seminars. Thus according to regulations, municipalities could legally absorb 86% of the full costs AL training, assuming that teachers do both the basic and supervision seminars within one year. Some schools may also be able to raise supplementary funds from “donations and sponsorships”, as mentioned above. Training could also be spread over two years if necessary.

Whether or not municipalities in the Serbia can disburse sufficient funds for professional development to cover the training costs of Active Learning is an important consideration for the AL project’s future. There has been no thorough investigation of this, indeed the general area of municipal financing of education requires more study. However, there are three reasons to think that some municipalities, particularly the poorer ones, will have difficulties financing professional development. First, there is considerable anecdotal evidence to this effect. Teachers and educational authorities repeatedly affirmed to the Review Team that poorer municipalities might experience difficulties funding in-service training. Second, limited data suggest that only the wealthy municipalities are making expenditures that might cover professional development. Table J.11 shows “other expenditures” per elementary education employee for three municipalities in 2002 with different levels of per capita GDP.

40 G17 Institute report, p. 17
41 According to Dr Miroslava Điričić, Head of the Education Decentralisation Committee.
Only the wealthiest municipality spent any money in this area. Third, an analysis of per student spending, pupil:teacher ratios, and per capita GDP at municipal level indicates that municipal spending has a regressive impact on per student spending, with per student spending being higher in wealthier municipalities (see Annex J.1).

Table J.11 Municipal spending on elementary education employees - three municipalities

<table>
<thead>
<tr>
<th>Municipality</th>
<th>GDP p.c.</th>
<th>&quot;Other expenditures&quot; per elementary education employee (2002, CSD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ražanj</td>
<td>43.71</td>
<td>0.00</td>
</tr>
<tr>
<td>Čaletina</td>
<td>81.17</td>
<td>0.00</td>
</tr>
<tr>
<td>Vrbas</td>
<td>139.63</td>
<td>7,409.68</td>
</tr>
</tbody>
</table>

Source: G17 data

The situation is more straightforward in the Montenegro, where professional development is the responsibility of the Republican budget. However, until now the Ministry has not covered cash costs for Active Learning training, and it is unclear whether such funds will be available in the near future.

In light of these financial constraints, the Review Team recommends that UNICEF continue to finance the cash costs of the basic and supervision seminars in Serbia and Montenegro. The funding should be targeted in the first instance on teachers who work in poorer municipalities or with otherwise disadvantaged children. Further, any move towards municipal funding of AL seminars in the Republic of Serbia should begin in the most developed group of municipalities. The pilot initiatives (discussed in Section W.3) to fund AL seminars from municipal/school budgets should be focused on the well-off municipalities. The Ministry of Education might also consider investigating to what extent the underdeveloped group of municipalities is able to fund professional development from their budgets, and what room there is for local fund-raising (as allowed for under the new Law). The Ministry may have to target funds for professional development on these municipalities for the foreseeable future.

**Education spending and economic context.** Table J.12 provides recent data on economic development and elementary education spending in the Republic of Serbia. It can be seen that per capita GDP fell from USD 1,616 in 1998 to 1,050 in 2000, and in 2002 had still not recovered at 1,541. Taking a longer perspective, one can note that the 2002 per capita GDP was roughly half of what it was in 1990. Further, while the economy was contracting between 1996-2000, the Republic of Serbia actually decreased spending on elementary education as a proportion of GDP, and by 2002 this proportion had still not recovered to 1996 levels. As a result, if one sets the index of per capita spending on elementary education to 100 in 1996, by 2000 it had fallen sharply to 35, and in 2002 was still only at 73. It is clear that as a result, the elementary education system in the Republic of Serbia continues to be under considerable stress.

Table J.12 Per capita GDP, public spending on elementary education, and index of elementary education spending in the Republic of Serbia

<table>
<thead>
<tr>
<th></th>
<th>GDP per capita (USD)</th>
<th>Public spending on elementary education as % of GDP</th>
<th>Elementary education spending per pupil index (1996 = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>1,582</td>
<td>2.21</td>
<td>100</td>
</tr>
<tr>
<td>1997</td>
<td>1,574</td>
<td>2.20</td>
<td>101</td>
</tr>
<tr>
<td>1998</td>
<td>1,616</td>
<td>1.76</td>
<td>85</td>
</tr>
<tr>
<td>1999</td>
<td>1,204</td>
<td>1.46</td>
<td>43</td>
</tr>
<tr>
<td>2000</td>
<td>1,050</td>
<td>1.39</td>
<td>35</td>
</tr>
<tr>
<td>2001</td>
<td>1,237</td>
<td>1.49</td>
<td>41</td>
</tr>
<tr>
<td>2002</td>
<td>1,541</td>
<td>1.83</td>
<td>73</td>
</tr>
</tbody>
</table>

Source: G17 report, citing Republican Statistics Bureau and G17 Institute

---

42 The G17 Institute report concluded that while the funding for the ALP “should gradually shift towards the increase of the portion allocation from domestic sources and reduction of resources from donations”, this should not happen “in the following two years, i.e. not until our economy recovers, and providing that reforms proceed at the pace which will foster gradual recovery of the Serbian economy”. G17 Institute report, p. 4
As the G17 Institute report puts it, the decline in spending had an “extremely negative impact” on the quality of education. The “reduction of elementary education spending did not encourage teachers to improve the quality of their work, and moreover, funds available for the provision of equipment and supplies necessary for the teaching process were drastically cut”.

In Montenegro, the situation is broadly the same. While a greater proportion of GDP is devoted to elementary education (3.6%), per capita GDP is lower, at USD 1,242 in 2001. Again, the economic situation is much worse than it was in 1990, when per capita GDP was USD 2,055, and the elementary education system continues to be under stress.

The generally difficult economic context in which the education systems of Serbia and Montenegro operate important underlying constraints on Active Learning, particularly via salary levels and the amount of funds available for teaching-learning materials.

- Salary levels were stated repeatedly to the Review Team by teachers and educational authorities in both Republics as a significant impediment to applying active learning. Teacher salaries are indeed low. In October of 2003, the average elementary education employee wage (net) in the Serbia was the equivalent of 4.05 times the amount it cost to purchase the minimum consumer basket per household member. Given an average household size of roughly four members, that means that a teacher’s net salary was roughly the equivalent of the value of the minimum consumer basket for a household. A teacher supporting his/her household would be on the poverty line.

- The low salary levels have numerous insidious effects. Strikes have until recently been quite common, in both republics; in the Republic of Montenegro, for instance, nearly the entire 2002-2003 school year was lost to strikes. Low salaries and thus lower morale, force the teacher to take up other work. As a result teachers are unable or unmotivated to innovate and prepare for lessons, let alone take responsibility for extra-curricular activities. Moreover, they encourage teachers to offer private tuition, often to their own students. In all these ways, low salaries hinder the adoption of active learning techniques, and it seems clear that whatever current returns to investment are for in-service training and supportive supervision, they would be higher if salary levels enabled teachers to focus on lesson preparation and execution.

- As the Serbian Ministry of Education and Sports acknowledges, “equipping education facilities with teaching materials and modern technology will be essential for both generating renewed enthusiasm in education and the performance of the new roles in teaching.” There has been some progress in this area, with various donors financing some Teaching/Learning Materials (TLMs) for particular schools (including UNICEF for this project). However, in 2001 the MoES concluded that “significant refurbishment” was required in 35% of schools, while fewer than one third of primary schools had a library with relevant reading materials. As amplified in an earlier section, teachers who have been trained in the active learning project commonly cite the lack of TLMs and inappropriate furniture as an impediment to introducing active learning. There is a pressing need to identify what are essential teaching-learning materials for enabling active learning in the new curriculum and supply them, particularly for grades 1 and 2, which are (or soon will be) implementing the new curriculum.

J.4 Equity in education financing: the impact of the Republican and municipal budgets

There must be some concern as to what extent municipalities can afford to fund professional development for teachers, as there are substantial disparities in GDP across the country. For example, in 2002 the per capita GDP in the most developed municipality (Savski Venac in Belgrade) was 83 times higher than the GDP in the poorest municipality (Preševo, in Pčinjski District in the south).

The G17 Institute report provides some insight into this concern. It analysed per pupil spending at the municipal level in terms of two variables, per capita GDP and pupil:teacher ratios (PTRs) (all municipalities together, and for three sub-groups: 20 most underdeveloped according to per capita GDP, 20 medium developed and 20 most developed).

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45 G17 Institute report, p.19.
The correlation coefficients are shown in Table J.13.

Table J.13 Correlation coefficient (r) between certain variables, by category of municipality

<table>
<thead>
<tr>
<th>PTR</th>
<th>GDP p.c.</th>
<th>Spending/pupil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underdeveloped</td>
<td>0.06</td>
<td>-0.51</td>
</tr>
<tr>
<td>Spending/pupil</td>
<td>0.56</td>
<td></td>
</tr>
<tr>
<td>Medium developed</td>
<td>0.00</td>
<td>-0.79</td>
</tr>
<tr>
<td>PTR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spending/pupil</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>Most developed</td>
<td>0.08</td>
<td>-0.54</td>
</tr>
<tr>
<td>PTR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spending/pupil</td>
<td>-0.31</td>
<td>-0.53</td>
</tr>
<tr>
<td>Most developed</td>
<td>0.75</td>
<td></td>
</tr>
</tbody>
</table>

Source: G17 report. Statistically significant relations are in bold.

In general, these two variables have an important influence on per pupil spending. This indicates that the centralised system of financing results in a more equitable distribution of per-student spending than would be expected if such spending were entirely dependent upon per capita GDP. Nonetheless, per student spending is higher in the more well off municipalities, and this is not a function of smaller PTRs – to the contrary. In 2002, for example, per-student elementary education spending in the underdeveloped group of municipalities was 24.5 thousand CSD (average PTR of 14.1), while it was 25.3 thousand in the medium developed group (PTR of 14.8) and 27.2 (PTR of 15.9) in the most developed group (Table J.14).

The reason the Republican budget is successful in offsetting the impact of uneven GDP distribution is because it funds salaries, which constitute by far the largest item of expenditures. The impact of salaries on per pupil spending is determined by the PTR; there is an inverse relation, as smaller PTRs naturally imply higher per student spending (if one takes only salaries into account). Roughly half the variation in per pupil spending can be explained by variations in PTRs for the municipalities as a whole.46

Table J.14 2002 per pupil spending and PTR, by municipal group

<table>
<thead>
<tr>
<th>Municipality group:</th>
<th>Average expenditure per pupil (CSD 000s)</th>
<th>Average PTR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underdeveloped</td>
<td>24.5</td>
<td>14.1</td>
</tr>
<tr>
<td>Medium developed</td>
<td>25.3</td>
<td>14.8</td>
</tr>
<tr>
<td>Most developed</td>
<td>27.2</td>
<td>15.9</td>
</tr>
</tbody>
</table>

Source: based on G17 Report annexes

However, it is also clear that per capita GDP has an effect on per student spending, largely because wealthier municipalities have more funds available per capita, and spend more on education through the municipal budget.47 The better off communities spend more per student through the municipal budget and are better able to generate school revenues. Within the most developed group, there is a strong correlation coefficient between per capita GDP and per pupil spending of 0.75. The correlation is probably particularly strong within the most developed group because it also enjoys a weak inverse relation between p.c. GDP and the PTR. So not only do the communities within this group spend more of their own resources on each pupil as they become better off, but they are also able to ensure somewhat smaller PTRs (as compared to other communities within the well-off group), thus ensuring an even greater per pupil spend.

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46 There is little or no relation between PTRs and per capita GDP at the municipal level (r = 0.06), so there is no question here of the relation between PTRs and per capita spending being confounded by a relation between PTRs and p.c. GDP. It is interesting to note, however, that for the most developed group of municipalities, there is a very weak inverse relation between PTR and per capita GDP, suggesting that the very well off communities are able to ensure smaller PTRs as compared to those communities at the lower end of the most developed group of municipalities.

47 This kind of relation is completely absent in the other two groups.

EVALUATIVE REVIEW OF ACTIVE LEARNING IN SERBIA AND MONTENEGRO 1994 - 2004
Concluding Remarks

Project costs have been shared between the major partners. The project team, including the Regional Coordinators, has contributed significant amounts of time to developing the Active Learning manual and the training package, to organising training and ensuring quality, and to supporting the regional centres. The government has enabled the participation of teachers and other educational staff, and has provided training facilities. The cash costs of the project have been covered by UNICEF, for training and teaching-learning materials, and for training seminars. The cash costs of the basic and supervision seminars have been USD 47.81 per participant. These compare favourably to training costs of other projects and the Ministries.

Thus far in the Republic of Serbia, 30% of elementary teachers have been through the basic seminar, and 15% through the supervision seminar.

In the Republic of Montenegro, 56% of elementary teachers have been through the supervision seminar, including all teachers of grades one to three. It will cost approximately two million USD in cash costs to ensure full coverage of the project. Future training will have to be carefully planned, particularly in the Republic of Serbia, to ensure that teachers make the transition from the basic to the supervision seminar on a timely basis.

The financial responsibility for these costs comes under the municipal budget in the Republic of Serbia, and the Republican budget in the Republic of Montenegro. It will be difficult to finance these costs from these sources in the near future, particularly in the poorer municipalities. This is due to the generally poor economic context and the resultant low levels of education spending. These levels of spending also impose some underlying constraints on the application of Active Learning, particularly through low salaries and inadequate budgets for teaching-learning materials.
SECTION K

ISSUES OF EFFECTIVENESS, EFFICIENCY AND EQUITY IN THE PROJECT

Introduction

This short section briefly analyses particular issues of effectiveness, efficiency and equity. The issue of effectiveness is examined in terms of the project’s impact on applied active learning practices. The discussion of efficiency focuses on the different levels of application between teachers trained to basic and supervision level, and the implications for making a timely transition between the two levels. Finally, training activities are analysed to see if they have been equitably distributed.

K.1 Project effectiveness

It will be recalled that the overall aims of the AL project include a change in teaching-learning practices and improved learning achievements. The proper way to measure changes in teaching-learning practices is to:

1. Observe practices in two samples of schools, one in the project area and one in a control area. To the extent possible, the control area should be like the project area except that the project does not intervene there. The practices should be observed before project interventions begin – that is, this baseline observation should be part of the project design. Further, the observation should be based on a standard observation schedule used by a relatively small number of trained observers. The observation should enable a high level of inter-rateability, that is, two observers observing the same class should rate the class in a substantially similar way. This requires both a properly designed and tested instrument, and a team of observers trained to operate rigorously in a common way.

2. Repeat the observation after sufficient time has passed for the project to have had an impact on teaching-learning practices.

The proper way to measure changes in learning achievements is to:

1. Conduct a baseline learning achievements exercise at the beginning of the project, using two samples (again, project area and control area).
2. Repeat the learning achievements exercise after sufficient time has passed for the project to have had an impact on learning achievements.

In the absence of baseline measurements of either teaching-learning practices or learning achievements, it is still worthwhile measuring these after sufficient time has passed, and comparing the measurements to a control area where the project has not operated. However, this is a second-rate solution. One should be measuring change, but one is reduced in this instance to assuming that the control measurement is in effect equivalent to the baseline measurement for one’s project area, and there are numerous reasons why this might not be so.

Projects commonly fail to conduct baselines and follow-up measurements, and thus are unable to objectively determine if there has been any impact. Unfortunately, the Active Learning project falls into this category. There were good reasons why a baseline was not conducted. The project began in uncertain and difficult circumstances; this would have made it difficult to conduct measurements. There continue to be good reasons why one should not embark
on such measurements lightly. For instance, a good observation schedule is difficult to design, training in its use has to be rigorous, learning achievements instruments have to be carefully constructed to measure higher-order skills, and so forth. However, there continues to be a lack of priority attached to these measurements. This is understandable in that project operations naturally focus on conducting regular project activities, which implicitly assume that the activities will have an impact. Yet this fails to take into account the significance of these measurements, which alone can determine if the project is having the desired impact. In-service teacher training, in particular, has been prone the world over to transmission losses – the skills and practices that are meant to be imparted to teachers during training fail to be applied in the classroom. It is therefore particularly important that impact be carefully controlled for in in-service teacher training projects.

It is recommended that the project place priority in the near future on measuring both teaching-learning practices and learning achievements, and that these be done both in project areas and (as a control) in areas where project training has not yet reached. This will not only help to determine what impact if any the project is having, but the classroom observations will provide valuable information to help improve the project training, as well as create opportunities for providing follow-up support. It must be stressed, that these measurements should take place in the near future, in part because of the rapidly expanding coverage of the project. If not done soon, it will no longer be possible to find a plausible control sample. Once that occurs, it will be all the more difficult to determine whether the project is having an impact.

Without measurements of actual teaching-learning practice and learning achievements in both project and control areas, it is not possible to calculate a cost-benefit analysis. One can report how effective project participants think the project has been in ensuring active learning classes. There are two bits of data that allow one to make some inferences in this regard – the quantitative reporting of AL teaching-learning practices, and the quantitative reporting of written AL lesson preparation. Before analysing these data, however, one must note that any conclusions based on them are tentative, for they are based on teacher self-reports.

As amplified in an earlier section, teachers trained to advanced level report on average that 30% of their classes are fully realised AL classes, while 36% are partially realised AL classes; thus two thirds of classes are at least partial AL lessons. (Graph K.1) This is based on a recall estimate spanning four weeks prior to the questionnaire. (Incidentally, these estimates are very similar to

Graph K.1  Project Effectiveness

For every hundred classes of a teacher that has completed supervision seminar

... 66 are at least partial AL lessons...

... and 30 are full AL lessons

---

48 One could still compare observed teaching-learning practices against what one would expect to observe and draw certain conclusions about changed practice, but they would not be so robust as conclusions based on a baseline or control sample.
estimates given by teachers and project instructors in Serbia and Montenegro during interviews in the October 2003 mission.) Given an average of 540 classes per year, this corresponds to 356 classes that are at least partial AL lessons, and 162 that are full AL lessons.

Only a limited number of the full AL lessons appear to be based on scenarios that were designed using the format as provided in the AL manual. Sixty five per cent of teachers who completed the supervision seminar report writing scenarios in the AL manual format; these teachers report writing 5.6 such scenarios during the entire previous year. For all supervision-trained teachers, this is an average of 3.64 such scenarios. Further, 44% of teachers who completed the supervision seminar report using scenarios developed by others; these teachers report using 3.45 such scenarios. For all supervision-trained teachers, this amounts to an average use of 1.52 scenarios developed by others. The total number of scenarios used that are in the AL manual format and that were either written by oneself or developed by another is 5.12. Given that some scenarios can be used for double sessions, while subject teachers have to give the same lesson to different classes, that is the equivalent of approximately 2-5% of all classes during the year.

Teachers also prepare for active learning classes in formats that are not so demanding, using their own formats or traditionally approved ones.

K.2 An issue of efficiency: the timely transition from basic to supervision training

The project is designed such that the teacher should complete the full training course in order to be able to realise quality active learning classes. The project does not stipulate the amount of time that should transpire between basic and supervision seminars, but it seems reasonable that anything beyond a year and the teacher risks a substantial loss of what s/he has learned and attempted to apply, while the difficulties associated with sustaining the teacher’s interest increase greatly. This is supported by the data. As amplified in an earlier section, teachers who have been trained to supervision level rank their readiness to apply active learning more highly (as compared to those trained to basic level), report higher levels of partial and full application of AL, write more scenarios, and more often use the scenarios of their colleagues. Training teachers to basic level and leaving them at that level for an extended period of time is an inefficient use of resources; it is better to allocate resources so that teachers get to supervision level within a reasonable period of time.

Table K.1 Estimate of deficit in timely supervision seminar training

<table>
<thead>
<tr>
<th></th>
<th>1. number of basic seminars</th>
<th>2. number of teachers trained (basic)</th>
<th>3. number of supervision seminars</th>
<th>4. number of teachers trained (superv.)</th>
<th>5. number of teachers who should receive superv. training</th>
<th>6. number of teachers who received superv. training</th>
<th>7. Surplus (deficit) for year</th>
<th>8. Cumulative Surplus deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>14</td>
<td>369</td>
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<td>(369)</td>
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<td>54</td>
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<td>(315)</td>
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<td>1999</td>
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<td>7</td>
<td>190</td>
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<td>(124)</td>
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<tr>
<td>2000</td>
<td>64</td>
<td>1,686</td>
<td>12</td>
<td>326</td>
<td>53</td>
<td>326</td>
<td>274</td>
<td>150</td>
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<td>2001</td>
<td>47</td>
<td>1,238</td>
<td>23</td>
<td>626</td>
<td>1,686</td>
<td>626</td>
<td>(1,061)</td>
<td>(911)</td>
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<tr>
<td>2002</td>
<td>219</td>
<td>5,771</td>
<td>121</td>
<td>3,291</td>
<td>1,238</td>
<td>3,291</td>
<td>2,053</td>
<td>1,142</td>
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<td>2003</td>
<td>271</td>
<td>7,141</td>
<td>87</td>
<td>2,366</td>
<td>5,771</td>
<td>2,366</td>
<td>(3,404)</td>
<td>(2,263)</td>
</tr>
</tbody>
</table>

Notes: Number of teachers is based on average number trained per seminar (31 for basic, 32 for advanced); and reduced by 15% to account for repeat participants. Surplus (deficit) is column #5 minus #6. Column #5 is number of teachers trained in basic in previous year.

49 This is a simplification, of course, because teachers can and do apply active learning techniques after the basic seminar. However, the project requires that the teacher do both seminars, and generally estimates it necessary in order to ensure that the teacher applies AL techniques properly.
A quantitative analysis of the project’s training history enables one to estimate to what extent teachers are making the transition from the basic to supervision seminar on a timely basis (i.e. within one year). This analysis focuses on the Republic of Serbia, where there is a timely transition delay; there is no such delay in the Republic of Montenegro. As Table K.1 demonstrates, the project’s capacity in Serbia to train teachers at a supervision level is unequal to its capacity to train teachers to basic level. In 2003, this timely supervision training deficit was 3,404 teachers, bringing the cumulative backlog to 2,263. Of the 9,117 teachers trained to basic level by the end of 2002, 6,854 (or 75%) received advanced training within one year.

Given the enormous jump in basic training in 2003, this backlog is almost certain to grow further in 2004. Project efficiency will decline correspondingly. This threatens to undermine the impact of a substantial portion of basic training, and should be addressed as a matter of priority. Initially there will be a need to divert trainers from basic to supervision seminars (as some instructors can do both), but there should also be immediate efforts to increase the numbers of instructors qualified to conduct supervision seminars. This will require some leadership. The reason for the huge jump in numbers trained to basic level in 2003 had to do with the Ministry’s requests to increase the coverage of teachers trained by the project, and by the project’s accreditation by the Ministry as an approved course. There will thus continue to be considerable pressure on the basic seminar, yet it is imperative that the project keep the number of basic seminar participants to a reasonable number in order to bring down the deficit in advanced training. This constraint is discussed in further detail in Section J.2.

K.3 Project equity: the distribution of training activities

The project has not until recently developed explicit aims or strategies to target particular disadvantaged groups (including national minorities). However, the project did make efforts to ensure that there was widespread coverage, and that project activities did not focus on Belgrade and other well-off and easily accessible places.

This is borne out by the training coverage data. Table K.2, which shows the number of seminars held in each district (normalised per 100,000 population), and the per capita domestic product for that district. The average per capita GDP (2002) of the districts where seminars took place in the Republic of Serbia (weighted for the number of seminars in each district) is 96.75 thousand CSD, much lower than the Republic of Serbia average of 123.7.

However, one should note that the data do not enable robust conclusions in this regard, as training in one district may have included teachers from another district, and in any given district there are pronounced disparities. For example, while the district “City of Belgrade” has a per capita GDP of 230.7, this ranges from 33.82 in the sub-district of Barajevo to 2,028.62 in Savski Venac. It may be that in any given district, the training covered teachers who were from relatively poor or relatively well-off areas. There is little to gain at this stage from a finer retrospective analysis of the equity of the distribution of project activities. Rather, the Review Team recommends that the project make the targeting of poorer municipalities an explicit


<table>
<thead>
<tr>
<th>District</th>
<th>Seminars per 100K population</th>
<th>GDP per capita (2002, CSD thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zlatiborski</td>
<td>14.4</td>
<td>77.86</td>
</tr>
<tr>
<td>Šumadijki</td>
<td>21.8</td>
<td>80.24</td>
</tr>
<tr>
<td>City of Belgrade</td>
<td>7.4</td>
<td>230.7</td>
</tr>
<tr>
<td>Mačvanski</td>
<td>7.9</td>
<td>74.57</td>
</tr>
<tr>
<td>Južne-bački</td>
<td>11.8</td>
<td>146.16</td>
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<tr>
<td>Braničevoški</td>
<td>10.5</td>
<td>95.23</td>
</tr>
<tr>
<td>Jablanički</td>
<td>6.2</td>
<td>58.53</td>
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<tr>
<td>Pšinjski</td>
<td>17.6</td>
<td>67.15</td>
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<tr>
<td>Zaječarski</td>
<td>9.5</td>
<td>80.59</td>
</tr>
<tr>
<td>Rački</td>
<td>2.1</td>
<td>64.26</td>
</tr>
<tr>
<td>Nišavski</td>
<td>3.1</td>
<td>107.47</td>
</tr>
<tr>
<td>Srednje-pomoravski</td>
<td>21.6</td>
<td>105.85</td>
</tr>
<tr>
<td><strong>Weighted Average</strong></td>
<td><strong>96.75</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: data from G17 report annexes. GDP calculated using SNA method.
strategy. This follows not only from UNICEF’s mandate (see UNICEF Mission Statement), but it also stands to reason that students from poorer neighbourhoods are in greater need of active learning classes (assuming that active learning leads to higher levels of learning achievement). That is, it has been found that students of poorer socio-economic backgrounds have relatively low learning achievements. There are multiple complex reasons for this, of which the household influence is determining. For these students in particular the quality of the teaching-learning environment created at school is of great importance in overcoming the limiting influences of the household.

Other aspects of equity, including the applicability of the training to national minorities, are discussed in Section G.

Concluding Remarks

Teachers who have been through the basic and supervision seminars report at least partial application of active learning in two thirds of their classes, and full application in 30% of their classes. However, there is no objective basis for determining how much active learning is being implemented in classes, nor has there been any systematic measurement of the impact of active learning on educational outcomes. It should be a priority of UNICEF, the project and the Ministries of Education in the Republic of Serbia and the Republic of Montenegro to develop the tools and methods for observing active learning and measuring outcomes. Only then will it be possible to evaluate the effects of the Active Learning project, and to estimate the project’s cost:benefit ratio. Teachers are more confident to apply active learning if they have been through the full training, and also report higher levels of application, more scenario preparation and more use of sequential analysis. It is therefore important that teachers make the transition from the basic to the supervision seminar on a timely basis. However, as at the end of 2003, roughly one quarter of all teachers in the Republic of Serbia who had done the basic seminar had to wait over a year before going on to the supervision seminar, a proportion that is set to deteriorate in 2004.

The project’s training seminars have been progressively distributed, with more seminars taking place on average in poorer districts.

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50 See Comprehensive Analysis of Primary Education in the Federal Republic of Yugoslavia.
VALUATIVE REVIEW OF A CTIVE LEARNING IN SERBIA AND MONTEENGRO 1994 - 2004
SECTION L

PROJECTION OF INFORMATION SYSTEMS AND RELATIONS WITH PARTNERS

L.1 Information Systems

The project has some difficulties in collecting, presenting and analysing data on key activities and outcomes. For instance, in collecting data for this review, there was some contradiction between the number of seminars given by different sources, and the number of participants was not readily available. Indeed, total participant numbers had to be calculated using an average number of participants per seminar, based on a sample of seminars, rather than from a database of seminars. The difficulty may not lie in the records at the Regional Centres, but rather with the system or lack thereof whereby key data are communicated to the project team. Yet it is important for the project, particularly the regional centres, to have a clear idea as to which teachers have been trained in each school, and to what level. This situation should be remedied either through the development of a properly functioning project database on training, or of an accessible database within the Ministries of Education. This is especially true at this juncture, as the project team and the Regional Centre Coordinators must make a special effort to identify who has been trained to basic level only, and encourage them to go through the supervision seminar as quickly as possible.

The project should also build a database of classroom observations. There is a need for a systematic observation of a sample of classes to understand the extent to which active learning is being applied, and with what quality. The project should design a classroom observation schedule – for which the tools and processes of scenario and sequential analyses will be helpful – and undertake observations of a sample of classrooms of teachers who have been through the project. The schedule will have to be constructed so as to enable the generation of certain key indicators that will enable the meaningful comparison of classes at any given time, and over time, in order to be able to discern objective changes in practices and quality. There is also a need to develop some simple indicators on post-training support provided by the project, and on teacher networking.

Some project work to develop an information system should be linked to the efforts of the Ministries of Education in the Republic of Serbia and Republic of Montenegro to improve their information systems. Neither the Republic of Serbia nor Republic of Montenegro has a readily accessible database on the professional development profile of teachers. Both systems will want to keep track of what professional development programmes and activities each teacher has participated in and undertaken, so that the information will be available at school, municipal, regional and national level. This will facilitate analysis and planning in the area of professional development at all levels where responsibility for these functions lies, as well as constitute an important source of information for determining professional advancement.

As currently being designed, both systems intend to incorporate student outcome variables, particularly learning achievements. (It is not clear to what extent the EMIS will incorporate measured learning outcomes in the lower grades, which will not be subject to standardised assessment). The Ministries might also incorporate information into the EMIS on observed quality of teaching-learning practices. This would
facilitate analysis of how well, the investments in professional development are being converted into improved practice, and may help to identify key bottlenecks to achieving higher student outcomes. This information need not be assigned to the particular teacher in the database, but may be aggregated either to the municipal or regional level; and should be based on a restricted sample of observations undertaken with a standard observation instrument and a team of trained observers.

Generating this kind of information is predicated upon the identification of some criteria or characteristics by which to evaluate the quality of the teaching-learning process. Sequential analysis may be of some use in this regard both as a tool and for providing criteria or characteristics. The Ministries of Education should consider undertaking a pilot monitoring of the quality of teaching-learning processes, working in cooperation with project instructors, using sequential analysis. One may need to develop an inventory of observation tools, criteria and characteristics, according to the subject matter and grade level. Given that this is an area in which the project also needs to work, there may be room for the project to cooperate with the Ministries in the development of tools and the building of the capacities of the team of observers.

### L.2 Relationships with partners

As noted in the section on the project’s background, the project began in the pre-reform era, at a time when there were some constraints on working with government. As a result, the project team tended to work independently, much like a non-governmental organization. This enabled it to attract people of high calibre, and to work without the restrictions of official process. The project team continues to maintain this independent status, though of course there is greater cooperation with the Ministries of Education, and the regional centres are closely integrated into the public system.

The independent status of the project team continues to confer some advantages now that reform is under way. In particular, professional development in the Republic of Serbia is organized such that courses are offered by independent service providers, while teachers and schools are free to choose from a catalogue of approved courses; the Active Learning seminars have been accredited and included in the catalogue. In this context, the project team can continue to act as an independent service provider, coordinating the overall training schedule, ensuring quality, developing and improving the training content, and providing technical assistance to the regional centres; while for their part, the regional centres can continue to mobilize trainers and host training.

In other areas, the project’s status will have to evolve to ensure better integration of its activities into the Ministry. In Montenegro, the project needs to clarify how it will fit into the new situation created by the reform process. There is a new centre responsible for in-service training (the CGE), which decides what training will be offered to teachers, and designs and delivers the training package. The project should work closely with the CGE to ensure that the active learning training package is fully incorporated into curricular training, and that the government supports the training in active learning of those teachers, particularly subject teachers, who have not as yet been trained.

In both Republics, the project team should also work more closely in future with the Ministries in an area that is critical to the long-term sustainability of the effects of active learning training – the development of teacher networks. The project team does not have the capacities to support teacher networks nationwide. Rather, it should work closely with government and UNICEF with a view to making two or three pilot networks operational over the next two years, targeted on disadvantaged areas. The project team could focus on providing technical assistance to the networks, UNICEF could fund the project team as well as provide financial assistance to the pilot networks to facilitate regular meetings, while the government might facilitate the participation of teachers and pedagogical advisers, as well as formally recognize the teachers’ participation as part of professional development. The underlying agreement would be that it is a pilot initiative which, if successful, will be taken to scale by the Ministry of Education.
APPENDIX 1

FRAMEWORK FOR THE EVALUATION OF ACTIVE LEARNING IN SERBIA AND MONTENEGRO

Undertaken by
UNICEF

Ray Harris, Education Consultant, Evaluation Review Leaders
Gerard Peart, Education Consultant

Instrumentalization, Analysis and Field Assessment by:
Centre for Education Evaluation
Aleksandar Baucal, Director
Dragica Pavlović, Researcher

Financial Analysis and Costing
G17 Institute
Miroslava Dinkić, Researcher

Facilitation and technical assistance
Institute for Psychology of the Belgrade Faculty of Philosophy
Ana Pešikan, AL Project Leader
Ivan Ivić, Expert Team Leader
1. Background

The education sector in Serbia and Montenegro includes preschool, primary, secondary and higher education and involves more than 1,400,000 pupils and 120,000 education staff. Primary education in Serbia and Montenegro is state run and school based, covers the years of 7-15, and is nominally free to children. The basic concept of education is traditional school, with lecturing as a predominant teaching method and passive status of the student. The curriculum is overloaded and contents driven and teaching itself has been reduced to delivery of factual knowledge prescribed in the various school subjects. Additional knowledge and skills, needed for living and working in the modern world are largely unavailable to children via the schools, as is building up a life-long learning approach. The ten years of under-investment in the education sector, conflict and also economic sanctions and isolation have further eroded new ideas and progress in teaching.

The results of such school are poor learning achievements, low motivation increased drop out. Students in primary school achieve less than 50% of basic knowledge necessary for continuation of education.51

In response to this assessment, UNICEF has commenced Active learning project (ALP) in 1994 in co-operation with the Ministry of Education in Serbia and Montenegro and the Institute of Psychology of the Belgrade Faculty’s of Philosophy Department for Psychology. The project presents large-scale action research and its long term goal is to alter the methods of teaching and learning in Yugoslav primary schools by creating new models of an interactive teaching and active learning based on the pupils’ participation.

After democratic changes in republics Serbia and Montenegro the new Governments have undertaken the measures to improve education. They defined three aims for modernising and reorganising the schooling system - to contribute towards economic revival, democratic development and European integration of the country. The reform of education provides for new orientations:

- Generally: Orientation towards outcomes-results of education and their transfer value for further education and life. The change in the way of learning (instead of reproductive learning – learning how to think, analyse, communicate, solve problems, which will enable inclusion into the world of labour or further education);
- Specifically: Flexibility of the curricula and compatibility with own experiences, needs of the local community, and interests of the child;
- Inclusion of marginalized groups.

To achieve set goals the active learning teaching has been endorsed as a significant part of the reform processes.

The Active Learning Teaching project objective

The project objective is to improve quality and relevance of knowledge and skills that pupils acquire in school, to change the child’s position in school and to develop personality and individuality of every child. The project’s long term goal is to alter the methods of teaching and learning in Yugoslav elementary schools, by creating new models of an active and interactive school based on the pupils’ participation.

Project strategy and accomplishment

The project is based on theoretical framework created by national team of education specialists which has been further elaborated through interactive work of teachers (trainees) and expert team (trainers) at the teachers’ training seminars during eight years of the project implementation. The implementation of the Project includes:

1. Series of in-service teacher training seminars:
   - 3-day basic training seminars for applying active methods. The program consists of discussion on concept and general features of traditional and of active school and role of actors in teaching and learning process. Teachers are also trained to develop specific models of classes – class scenario in various subjects and to apply them in classroom.
   - Supervision seminar which follows basic seminar and at least three month of AL implementation. It includes presentation of teacher’s work with the students (AL class) to research team and other trained teachers from the area and joint evaluation of the process.

51 UNICEF 2001 Comprehensive Evaluation of Primary Education in Yugoslavia
and its relevance regarding the learning content and class objective.
- Training of trainer’s seminar, for selected teachers, school pedagogues and psychologists.
- Spreading of ALP in individual schools by applying cascade principle of training.

2. Development of specific method for analysing the classes, so-called sequential analysis. This is specific way of detailed and objective analysis of the class, relevance of students activity and teachers role. The sequential analysis is done by teachers and is used as a tool for improving practice.

3. Development of model schools network. Their role is to serve as regional centres for implementation, development and promotion of active learning. In these schools – experimental centres, the research team and a team of teachers (already educated through training seminars) jointly conceptualise, elaborate and implement active methods in their classrooms. They also support and encourage other schools in their regions to implement active learning.


5. Development of Active Learning manual. This manual describes the basic concept of AL, explains theoretical framework and presents practical experiences of the application of the AL in school.

6. Media promotion of Active Learning through development TV series, interviews, broadcasting of classes, etc.

7. Provision of teaching aids and audio-video equipment to model schools.

About 20,000 teachers have been trained at various levels. Basic group of some 150 trainers – education professionals from all over the country has been established. Hundreds of class models/teaching scenarios have been developed. Selected database of some 200 scenarios has been created. Tens of classes of different subjects in different Yugoslav schools have been video recorded. Thirty model schools have been established throughout the country.

2. Purpose and objectives of the evaluation

The purpose of the evaluation is to assess, through an in-depth analysis, the concept, implementation and effects of the active learning teaching and to give recommendations for its future development.

The objective of evaluation is:

- To evaluate Interactive Teaching – Active Learning (AL) project in Yugoslavia (Serbia and Montenegro) including following dimensions: Project concept, Implementation concept, Implementation structure and Implementation process and effects of the AL on various stakeholders;
- To evaluate policy framework and the complementarity with other programmes within the education reform and with respect to international standards and commitments. To evaluate potential of the project to contribute to the national strategy on quality education for all and sustainability of the Project.
- To recommendations short term, medium term and long term measures to and roles of: the MoES, National Centre for Evaluation, Centre for Teacher’s Professional Development, Institute for Psychology, Model schools, local authorities, UNICEF regarding:
  - Training
  - Implementation
  - Evaluation.
  - Policy development
  - Funding

necessary for full integration of the Project into the education system.

- To recommend methods for future monitoring and evaluation of Active Learning Teaching in schools and ways for capacity building of local counterparts to continue project evaluation and monitoring.
- To outline UNICEF future role in these activities.
3. Scope

The evaluation will cover Serbia and Montenegro and will include teachers, trainers, children, policy makers, and educational authorities. Indicators to be measured include impact on children and professionals, coverage of project, policy and practice change, funding.

4. Key issues

The evaluation will collect data related to the following three key areas:

Conceptual issues related to Active Learning/Teaching - why it has been introduced; its purpose; core concepts and values; Project Design and Theoretical Approach

Project context: review of educational system, critical constraints and opportunities, state of teaching-learning processes. Review of how project situated itself in this context.

Description of project objectives, strategies, activities and risks/ assumptions.

Description of project structures and process, roles and responsibilities of personnel put in place to implement project and role of partners.

Active learning in the context of educational reform

Description of certain aspects pertaining to current state and proposed reforms in the educational sector that are relevant to the project’s past execution and future sustainability and expansion:

- Curriculum development (and school curriculum)
- New system of the Monitoring and Evaluation (M&E) of student’s achievements
- Teacher training and professional development
- System of inspection and pedagogical support
- System of financing
- Quality assurance and assessment
- Decentralisation

Scaling up and adoption by educational authorities, including analysis of operations and costs of scaling-up and maintenance

How the programme is working out in practice - what are the skills that pupils will develop; what outcomes have been identified; what impact has the programme had on pupils, the teachers, the school (examples, indicators).

Teachers: Focusing on the people who have been tasked to introduce these changes; who they are; how appointed, volunteered or conscripted; their background, motivation, readiness and capacity for the task; knowledge and skills required; preparation, orientation, training and support received; their place within overall school staffing structures; lines of reporting, accountability, inspection.

Reported changes in attitudes/ perceptions of teacher towards teaching-learning process and students’ status/ role.

Impact on teachers at professional and personal level (motivation, interest, self-esteem etc.)

Reported amount of active teaching-learning in classes.

Analysis of reported amount/ quality of supportive supervision received.

Analysis of self-reported drop-out or partial application, and of barriers to implementing active learning

Reported impact on extra-curricular activities.

Students: Impact on students (interest in learning, motivation, in class behaviour, higher order learning skills such as problem solving, critical thinking, team work etc. as well as learning achievements.

Training, Supervision and Support

Training of Trainers:

Who trains trainers and organises courses

Detailed description and description of training

Number of seminars conducted, trainers trained, how candidates were chosen

Tenure of trainers, and number of training seminars done

Analysis of quality of training materials

Analysis of seminar evaluation mechanism and results

Discussion of criteria of competence/ certification

Ongoing monitoring and/or supervision of trainers
Model schools:
- Description of number and distribution of model schools
- Analysis of functioning of model schools: process of accreditation/ appointment, role/ responsibilities of co-ordinator and model school, team membership and roles, resources required an available, stability
- Materials produced and activities undertaken; quantity and quality, and some analysis of how well these met needs

Training of teachers (including monitoring, evaluation and development/ ongoing support):
- Description and discussion of training package
- Number of teachers trained and seminars conducted, by kind of seminar and teacher’s (class teacher, subject teachers, multigrade teachers, special need teachers etc.)
- Number of supervisory visits between basic and supervision seminars
- Admission procedures
- Analysis of quality of training materials
- Analysis and results of basic seminar evaluation mechanism
- Analysis and results of supervision seminar evaluation mechanism
- Analysis of supervision between basic and supervision seminars
- On-going monitoring/ supervision and development of teachers

Other seminars (principals and inspectors)
- Number and distribution
- Description/ discussion of content

Project planning, monitoring and evaluation
- Planning (annual plans)
- Monitoring/ evaluation framework
- Project expenditures

Conclusion and summary of recommendations

5. Evaluation methods

The evaluation will include desk review of various materials, opened and structured questionnaires and interviews, thematic discussions, field visits and case studies.
- Assessment of student’s achievements by using tests for learning achievements and other instruments for assessing motivation, social skills, values and attitudes of students.
- Assessment of impact on teachers by using questionnaires, through interviews, discussions etc.
- Case studies of selected schools.
- Evaluation of the impact on stakeholders and beneficiaries will be carried out in co-operation with the National Education Evaluation Centre.
- A critical reading of the intentions in education reform as reflected in its strategy document Quality Education For All, and New Systems Law on Education in Serbia, The Strategic Plan of Education Reform of the Ministry of Education and Science Montenegro, Comprehensive Analysis of primary Education in the FRY, will provide the starting point for the analysis.
- List of relevant source documents relating to the Active Learning Teaching is attached. Primary data, however, will be gathered through questionnaires and interviews at school level and from various stakeholders. These data will be enriched by carefully selected case studies and focus discussions that will adopt more a qualitative approach.

Data Collection Instruments, by Type and Content
- Existing data
- Data to be gathered from project documents and files, including reports of model schools

Content:
- Description of project objectives, strategies, activities and risks/ assumptions. Description of project structures and processes, roles and responsibilities of personnel put in place to implement project; and the role of partners.
- Description of active learning as a pedagogical approach.
- Description of training process.
- Number and list of trainers trained, by ToT seminar.
- Explanation of how candidates were chosen Criteria by which trainers are allowed to continue training
- Active tenure of trainers, i.e. how long on average have trainers thus far acted as trainers.
- Average number of seminars that a trainer conducts, as assistant and as fully qualified trainer.
- Training materials
- Analysis of improvements in knowledge/ skills of trainer
- All seminar evaluation sheets
- Number and distribution of model schools, and how long they have been working.
  Any information on what model schools have been doing, on resources required and available
  Number of seminars held, number of teachers trained
  Constraints on functioning
  Detail description of training packages, and all training materials
  Number and list of teachers trained, by kind of seminar, by place and by year.
- Costing

New data

**Trainers questionnaire**

_Type:_
Questionnaire to be administered to representative sample of fully trained trainers who have been practising at least one year

**Content to be gathered:**
- Quality of ToT training materials and process/activities
- Analysis of seminar evaluation mechanism
- Self-reporting of improvements in knowledge and skills subsequent to training
- Monitoring and supervision support received during apprenticeship and after
- Analysis of teachers’ first attempts at active learning (subsequent to basic training)
- Analysis of on-going monitoring/supervision and development of teachers between basic and supervision seminars
- On-going monitoring/supervision and development of teachers after supervision seminar (mechanisms for support, regularity/quantity and quality of support; existence and operation of school teams)
- Changes in teacher attitudes/perceptions with respect to the teaching-learning process and the status/role of the student
- Amount of active teaching-learning being conducted in classes
- Quality of active teaching-learning being conducted in classes
- Analysis of partial application by teachers, and of barriers to implementing active teaching-learning

**Trainers focus group**

_Type:_
Focus group discussion with small sub-sample of trainers (taken from above sample)

**Content to be gathered:**
- Quality of ToT training materials and process/activities
- Analysis of seminar evaluation mechanism
- Analysis of teachers’ first attempts at active learning (subsequent to basic training)
- Analysis of on-going monitoring/supervision and development of teachers between basic and supervision seminars
- On-going monitoring/supervision and development of teachers after supervision seminar (mechanisms for support, regularity/quantity and quality of support; existence and operation of school teams)
- Changes in teacher attitudes/perceptions with respect to the teaching-learning process and the status/role of the student
- Amount of active teaching-learning being conducted in classes
- Quality of active teaching-learning being conducted in classes
- Analysis of partial application by teachers, and of barriers to implementing active teaching-learning

**Co-ordinators questionnaire**

_Type:_
Questionnaire for all coordinators

**Content:**
- Monitoring and supervision support provided to trainers during apprenticeship and after
- Analysis of functioning of model schools (process of accreditation/appointment, role/responsibilities of coordinator, team membership and roles, resources required and available, training planning, monitoring and management)
- Materials produced and activities undertaken by model schools: quantity/quality, management and some analysis of how well these meet needs
- Number of seminars held at model school, number of teachers trained
- Constraints on functioning of model school
- Admissions procedures for basic and supervision seminars (application/selection)
- Number of supervisory visits teachers receive between basic and supervision seminars
- Analysis of on-going monitoring/supervision and development of teachers between basic and supervision seminars
- Analysis of teachers’ first attempts at active learning (subsequent to basic training)
- Number of supervisory visits to teachers who are between basic and supervision seminars
Analysis of on-going monitoring/supervision and development of teachers between basic and supervision seminars
On-going monitoring/supervision and development of teachers after supervision seminar (mechanisms for support, regularity/quantity and quality of support; existence and operation of school teams)
Analysis of impact of seminars and other support on principals’ readiness and ability to support and monitor teachers’ active teaching-learning efforts, and to inform parents
Analysis of impact of seminars and other support on inspectors’ competence to evaluate and support active learning
Description and discussion of role of family and community in project

Coordinators focus group discussion
*Type:* focus group discussion with sample of coordinators

*Content:*
Monitoring and supervision support provided to trainers during apprenticeship and after
Analysis of functioning of model schools (process of accreditation/appointment, role/responsibilities of coordinator, team membership and roles, resources required and available, stability)
Constraints on functioning of model school
Materials produced and activities undertaken by model schools: quantity/quality, and some analysis of how well these meet needs
Analysis of teachers’ first attempts at active learning (subsequent to basic training)
Analysis of on-going monitoring/supervision and development of teachers between basic and supervision seminars
On-going monitoring/supervision and development of teachers after supervision seminar (mechanisms for support, regularity/quantity and quality of support; existence and operation of school teams)
Analysis of impact of seminars and other support on principals’ readiness and ability to support and monitor teachers’ active teaching-learning efforts, and to inform parents
Analysis of impact of seminars and other support on inspectors’ competence to evaluate and support active learning
Description and discussion of role of family and community in project

Questionnaire for teachers
*Type:* questionnaire for a representative sample of teachers who have completed basic and teachers who have completed supervision seminar

*Content:*
Practices and beliefs (about teaching, students, parents); changes in teacher attitudes/perceptions with respect to the teaching-learning process and the status/role of the student, as result of exposure to project
Changes in students’ interest, motivation, behaviour as a result of ALT; changes in attendance
Analysis of quality of training materials and process/activities
Analysis of teachers’ first attempts at active learning (subsequent to basic training)
Analysis of on-going monitoring/supervision and development of teachers between basic and supervision seminars
On-going monitoring/supervision and development of teachers after supervision seminar (mechanisms for support, regularity/quantity/quality/adequacy of support; existence and operation of school teams)
Principals’ readiness and ability to support/monitor teachers in active learning and to inform parents

Teachers readiness and ability to inform and involve parents
Inspectors’ competence to evaluate and support active learning
Self-reporting of amount of active teaching-learning being conducted in classes; and quality of practice
Analysis of non or partial application by teachers, and of barriers to implementing active teaching-learning
Description and discussion of role of family and community in project

Teachers focus group
*Type:* structured focus group discussion with sub-sample of teachers who have completed the supervision seminar (taken from sample above)

*Content:*
Analysis of quality of training materials and process/activities
Analysis of teachers’ first attempts at active learning
learning (subsequent to basic training)
Practices and beliefs (about teaching, students, parents); changes in teacher attitudes/perceptions with respect to the teaching-learning process and the status/role of the student, as result of exposure to project
Changes in students’ interest, motivation, behaviour as a result of ALT; changes in attendance
Analysis of on-going monitoring/supervision and development of teachers between basic and supervision seminars
On-going monitoring/supervision and development of teachers after supervision seminar (mechanisms for support, regularity/quantity/quality/adequacy of support; existence and operation of school teams)
Principals’ readiness and ability to support/monitor teachers in active learning and to inform parents
On-going monitoring/supervision and development of teachers after supervision seminar (mechanisms for support, regularity/quantity/quality/adequacy of support; existence and operation of school teams)
Analysis of non or partial application by teachers, and of barriers to implementing active teaching-learning
Description and discussion of role of family and community in project
Student attendance records

Inspectors’ questionnaire
Type:
Questionnaire for a sample of inspectors who have received seminar training

Content:
Opinion on content and process/activities of seminar
Analysis of impact on inspectors’ readiness and competence to evaluate and support active learning

Principals’ questionnaire
Type:
Questionnaire of a sample of model school principals

Content:
Analysis of impact on principals’ readiness and abilities to support and monitor teachers in active learning and to inform parents

The sets of instruments will be developed by National Education Evaluation Centre, based on drafts by the international evaluators. Each questionnaire is to be piloted, discussed and agreed on jointly by the evaluation team, UNICEF and the MoES.

The instruments include conventional questionnaires, face-to-face interviews, focus group discussion and case studies in selected schools. The size and selection of the national sample will be defined by Centre for Education Evaluation and external evaluators.

The evaluation will provide recommendations to the MoES with a view to the elaboration of a strategy for integration of the active learning into system of teacher’s professional development and application of active learning in schools.

- How to improve arrangements training of teachers in future;
- How to link active learning teaching with other innovative programmes in school and fully integrate ALT into the system
- How to ensure continuous monitoring of the application of active learning and its effects in the school
- Any significant issues that need to be addressed as part of future planning and implementation.
- Responsibilities at various level among various stakeholders and time frame (immediate, short term, long term).

The evaluation will also provide information to the international community on different aspects related to the introduction active teaching learning into formal education system in Serbia and Montenegro.

Project Management

An evaluation steering group established by UNICEF and composed of 8 members: representatives of experts’ team, Ministries of Education, UNICEF, AL trainer and schoolteacher (practitioner). The steering group will assist in preparation of evaluation, development of instruments for field assessment, and testing of students, preparation of written material on the project such as report, class scenarios, manual and modules for specific groups etc. It will also assist
in the developing of the final document. It will meet at critical stages of the evaluation.

A smaller management team will be convened to cover day to day running of the project evaluation.

Two external evaluators will be engaged, one is likely to be a general expert in system evaluation, and the other will be an expert in education evaluation process and outcomes. The national education evaluation institution will be engaged particularly for the field assessment. (Annex 2. ToR for National evaluation team.) UNICEF will lead the process and will provide financial support for the evaluation including the costs of external evaluators, translation, transportation and working space during the evaluation field trips. UNICEF will also provide support for a national institution to develop and analyse tools for students’ academic achievements. The Ministry of Education will provide inputs to the steering committee and the evaluation report. Other partners will contribute to preparation of the evaluation methodology and tools, review interim report and creating of action plan for follow up.

Evaluation Outcome

1) Evaluation report, which indicates achievements, lessons learned, potential resources and recommends strategies to support existing process, needs and areas for improvement. The report will identify training needs for educational staff and other stakeholders, optimal resource mobilization in order to accelerate process in keeping it up with education reform and propose modifications that meet various educational needs, teachers’ capacities and interests.

2) Recommendations for UNICEF future role in the project in FRY.

3) Follow up plan on recommendations for key stakeholders for immediate, short term and long term action.

4) Increased capacity of local counterparts in the Ministries of Education, educational and scientific institutions and other education staff to conduct evaluation, design case study and monitor project implementation.

5) Dissemination via media interviews and round table discussions.

6) Promotion of active teaching/learning method among professionals, parents teachers and general public.

The Report will be used by the Ministry of Education in Republic of Serbia and Republic of Montenegro and National Teachers’ Training Centre for developing strategy and policy of teachers’ professional development.

The Report will also be also used by Institute for Psychology for further development of the Project. It will be shared with scientific and educational institutions in the country and with UNICEF educational experts in other countries in order to provide them with recommendations how to improve exiting arrangements on applying interactive methods in teaching/learning. The report will be developed in English and translated to Serbian language to be widely distributed to various stakeholders.

Time Frame

September 2002 – December 2003

Annex a.

List of documents and materials submitted to external evaluators:

- Comprehensive Analysis of Primary Education in the Federal Republic of Yugoslavia.
- Quality Education For All, Ministry of Education of the Republic of Serbia.
- The Strategic Plan of Education Reform of the Ministry of Education and Science Montenegro.
- Active Learning Manual.
- Acquisition of the Meaning of Scientific Terms by Active Learning in Elementary Schools, Graduation Thesis at the Psychological Department of the Faculty of Philosophy.
- Active Learning in Elementary Biology teaching, Dr. thesis summary, Faculty of Mathematics and Science Novi Sad.
- Scenarios on Active Learning Classes from Primary school in Požarevac.
- Report from the evaluation meeting of model schools representatives, September 2002
- An example of evaluation of randomly selected basic and supervisory Seminars and consultative workshop – questionnaires and analysis of answers.
- List of model schools in Serbia and Montenegro and primary schools covered by AL.
- List and directory of the AL Trainers.
- Letter to regional centres and instructors concerning development of annual programme and plan.
- Sample of the annual plan of activities of model school.
- Number and distribution of AL workshops in 2002.
- Form for writing workshop report and workshop evaluation.
- Rulebook for mode school regional centres.
- Rulebook for trainers.
- Instruction for apprenticeship for AL trainers.
- Professional identity, questionnaire on self reflection of teacher on teaching practice in traditional school and AL experience.
- http://www.vlada.cg.yu/eng/minprosv/

Annex b.

Terms of Reference for National Evaluation Team.

Within the context of the evaluation National Evaluation Team is responsible for the assessment of the impact of active learning on ultimate beneficiaries: students and teachers.

1. In close co-operation with external evaluators and project team defines indicators of the impact of active learning on students and teachers to be measured which include the narrow cognitive and higher order learning and social skills.
2. Identify, analyse currently available data on effect of active learning on students and teachers, compile it, and provide preliminary report.
3. In close collaboration with external evaluators, project team, and UNICEF, develop instruments for new data collection and propose methodology for field assessment; Pre-test instruments and revise accordingly; Train data collection personnel as necessary.
4. Develop sampling frame for each data collection exercise, as required. Recommends model schools to be assessed based on socio-economic profile and organization of schoolwork (multishift, multiethnic, multigrade, small rural, large schools, etc).
5. Conduct field assessment on the effect of active learning on students and teachers and on the role and functioning of model school; Conduct surveys (using questionnaire/ observation instruments), compile results and develop preliminary analysis of results.
6. Recommend indicators, methods and instruments for continuous monitoring in the future.
APPENDIX 2

EVALUATIVE REVIEW OF ACTIVE LEARNING PROJECT - AN INTRODUCTION TO THE REPORT OF THE SERBIAN CENTRE FOR QUALITY ASSURANCE AND EVALUATION

The Evaluation of the Active Learning Project was performed on the whole territory of Serbia and Montenegro except Kosovo and Metohija in the period between 01.10.2003 and 31.01.2004 The research was carefully conceived and divided in several organizational stages:

- Forming of the sample and preparation of the questionnaire.
- Preparation of field research.
- Field research
- Coding and entering of data
- Statistical analysis
- Writing of the report

The evaluation included 1,500 interviewees divided into 16 categories. Ten different questionnaires constituted the complete set. Each category of interviewees was given a certain combination of two or more questionnaires to complete.

The preparation for field research included preparation and printing of materials (questionnaires, instructions and forms), as well as interviewer training.

The field research was performed in the period between December 2003. 19 interviewers took part in it. Upon receipt, the material was classified, coded and then entered into the data base.

THE SCHOOL SAMPLE
The territorial division for the making of the sample was based on the already existing administrative division into 13 school districts.

Montenegro was treated as a separate unit. The distribution of schools obtained in this manner was as follows:

Leskovac
1. “8. Oktobar” Elementary School, Vlasotince
2. “Bora Stanković” Elementary School, Vučje
3. “Vuk Stefanović Karadžić” Elementary School, Surdulica

Vranje
4. “Svetozor Marković” Elementary School, Vranje
5. “15. Novembar” Elementary School, Preševo
6. “Georgi Dimitrov” Elementary School, Bosilegrad

Niš
7. “Sveti Sava” Elementary School, Niš
8. “Lela Popović” Elementary School, Miljkovac

Užice
9. “Živko Ljuijić” Elementary School, Nova Varoš
10. “Braća Ječmenica” Elementary School, Užice
11. “Stevan Čolović” Elementary School, Arilje
12. “Bratstvo” Elementary School, Novi Pazar

Kraljevo
13. “IV Kraljevački bataljon” Elementary School, Kraljevo
14. “Milinko Kušić” Elementary School, Ivanjica
15. “Milica Pavlović” Elementary School, Čačak
16. “Popinski borci” Elementary School, Vrnjačka Banja
17. “Bogoljub Čukić” Elementary School, Tutin
18. “Vuk Stefanović Karadžić” Elementary School, Tutin
Kragujevac
19. “Vuk Stefanović Karadžić” Elementary School, Kragujevac
20. “Vuk Stefanović Karadžić”’ Elementary School, Knjić
22. “Milan Ilić – Čića” Elementary School, Arandelovac

Zaječar
23. “3. Oktobar” Elementary School, Bor
25. “Dimitrije Dragović” Elementary School, Soko Banja

Valjevo
27. “Nada Purić” Elementary School, Valjevo
28. “Stevan Filipović” Elementary School, Dvori
29. “Janko Veselinović” Elementary School, Šabac
30. “Mića Stanojlović” Elementary School, Koceljave
31. “Anta Bogišević” Elementary School, Loznica
32. “Mika Mitrović” Elementary School, Bogatić

Beograd
33. “Drinka Pavlović” Elementary School, Beograd, Starigrad
34. “Sveti Sava” Elementary School, Beograd, Vračar
35. “Milentije Popović” Elementary School, Beograd, Žarkovo
36. “Jovan Dučić” Elementary School, Novi Beograd
37. “Vojvoda Mišić” Elementary School, Beograd, Savski Venac
38. “Dositej Obradović” Elementary School, Umka

Požarevac
39. “Kralj Aleksandar I” Elementary School, Požarevac
40. “Ivo Lola Ribar” Elementary School, Veliko Gradište

Zrenjanin
41. “Zarko Zrenjanin” Elementary School, Zrenjanin
42. “Bratstvo-Jedinstvo” Elementary School, Pančevo

Novi Sad
43. “Bratstvo-Jedinstvo” Elementary School, Vrbas
44. “Vuk Stefanović Karadžić” Elementary School, Bač
45. “Miroslav Antić” Elementary School, Futog

Sombor
46. “Bratstvo–Jedinstvo” Elementary School, Sombor
47. “Sečenji Ištvan” Elementary School, Subotica
48. “Bratstvo–Jedinstvo” Elementary School, Bezdan
49. “Nikola Tesla” Elementary School, Bačka Topola
50. “Adi Endre” Elementary School, Mali Idoš

In Montenegro it was decided to perform the research in 10 schools which are the local centres for active learning:

1. “Milan Vuković” Elementary School, Herceg Novi
2. “Dašo Pavičić” Elementary School, Herceg Novi
3. “Blaz Jojov Orlandić” Elementary School, Bar
4. “Stefan Mitrov Ljubiša” Elementary School, Budva
5. “Olga Golović” Elementary School, Nikšić
6. “Savo Pejanović” Elementary School, Podgorica
7. “Branko Božić” Elementary School, Podgorica
8. “Radojica Perović” Elementary School, Podgorica
9. “Sutjeska” Elementary School, Podgorica
10. “Vuk Karadžić” Elementary School, Berane

Originally 60 schools were selected to participate in the research on the territory of Serbia. Because it was not possible to meet the required number of interviewees, the number of participating schools was increased. Since this situation was expected, a number of reserve schools for each school district were selected in advance. These schools were used to complete the sample when necessary.

THE INTERVIEWEE SAMPLE

The planned sample was to include 1441 interviewees of which 1126 in Serbia and 315 in Montenegro. The interviewees were further divided into 16 groups depending on their level of education at seminars of Active Learning.

Upon completion of the field part of the research it was determined that the sample was respected in 87% of cases in Serbia and entirely in Montenegro. According to reports the deterioration of the sample in Serbia was caused by:
- longer periods of illness of interviewees,
- longer periods of interviewee absence from their place of residence
- retirement of interviewees
- lack of motivation to participate in the research.

The projected (estimated) and realized sample are shown in the table below. The sample is organized according to groups and number of interviewees, separately for Serbia and separately for Montenegro.

BATTERY OF QUESTIONNAIRES
As mentioned, the battery consisted of 10 questionnaires divided as follows:
- Questionnaire 1 General Information
- Questionnaire 2A Training and support – basic seminar
- Questionnaire 2B Training and support – supervisory seminar
- Questionnaire 3 Training and work of instructors
- Questionnaire 4 Application of active teaching/learning methods in teaching

| SERBIA | | |
|--------|-----------------|-----------------|-----------------|
| Group                          | Projected Sample | Realized Sample | Realized Sample in % |
| Grade 2 to 4 teachers who attended the basic seminar in Active Learning | 100 | 96 | 96% |
| Grade 2 to 4 teachers who attended the supervisory seminar in Active Learning | 100 | 96 | 96% |
| Grade 1 teachers who attended the basic seminar in Active Learning | 100 | 98 | 98% |
| Grade 1 teachers who attended the supervisory seminar in Active Learning | 100 | 79 | 79% |
| Grade 1 teachers (the control group) who did not attend seminars in Active Learning | 100 | 71 | 71% |
| Grade 5 to 8 teachers who attended the basic seminar in Active Learning | 100 | 95 | 95% |
| Grade 5 to 8 teachers who attended the supervisory seminar in Active Learning | 100 | 83 | 83% |
| Grade 5 to 8 teachers (the control group) who did not attend seminars in Active Learning | 100 | 96 | 96% |
| Grade 5 to 8 chemistry teachers who attended the basic seminar in Active Learning | 72 | 52 | 72% |
| Grade 5 to 8 chemistry teachers who attended the supervisory seminar in Active Learning | 69 | 48 | 70% |
| Active Learning Instructors | 100 | 104 | 104% |
| Active Learning Coordinators | 25 | 18 | 72% |
| Teachers in combined classes | 30 | 27 | 90% |
| Teachers in Roma classes | 30 | 14 | 47% |
| Total | 1126 | 977 | 87% |

| MONTENEGRO | | |
|-------------|-----------------|-----------------|-----------------|
| Group                          | Projected Sample | Realized Sample | Realized Sample in % |
| Grade 2 to 4 teachers who attended the basic seminar in Active Learning | 200 | 201 | 100.5% |
| Grade 5 to 8 teachers who attended the basic seminar in Active Learning | 100 | 102 | 102% |
| Active Learning Instructors | 14 | 11 | 79% |
| Active Learning Coordinators | 1 | 3 | 300% |
| Total | 315 | 317 | 100.6% |
Questionnaires 1, 2A, 4, 6, 8
Questionnaires 1, 2A, 2B, 4, 6, 8
Questionnaires 1, 2A, 4, 6, 8, 10
Questionnaires 1, 2A, 2B, 4, 6, 8, 10
Questionnaires 1, 2A, 2B, 4, 6, 8
Questionnaires 1, 2A, 4, 6, 8
Questionnaires 1, 2A, 2B, 4, 6, 8
Questionnaires 1, 2A
Questionnaires 1, 3
Questionnaires 1, 7
Questionnaires 1, 2A, 2B, 4, 6,
Questionnaires 1, 2A, 2B, 4, 6, 8

- **Questionnaire 6** Program effects
- **Questionnaire 7** Training and work of coordinators
- **Questionnaire 8** Work in classes with Roma children
- **Questionnaire 10** Work in grade 1
- **Questionnaire 11** Opinion about Active Learning Project.

The following table shows the combination of questionnaires completed by different groups of interviewees.

<table>
<thead>
<tr>
<th>Group</th>
<th>Combination of questionnaires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 2 to 4 teachers who attended the basic seminar in Active Learning</td>
<td>Questionnaires 1, 2A, 4, 6, 8</td>
</tr>
<tr>
<td>Grade 2 to 4 teachers who attended the supervisory seminar in Active Learning</td>
<td>Questionnaires 1, 2A, 2B, 4, 6, 8</td>
</tr>
<tr>
<td>Grade 1 teachers who attended the basic seminar in Active Learning</td>
<td>Questionnaires 1, 2A, 4, 6, 8</td>
</tr>
<tr>
<td>Grade 1 teachers who attended the supervisory seminar in Active Learning</td>
<td>Questionnaires 1, 2A, 4, 6, 8, 10</td>
</tr>
<tr>
<td>Grade 1 teachers (the control group) who did not attend seminars in Active Learning</td>
<td>Questionnaires 1, 2A, 2B, 4, 6, 8, 10</td>
</tr>
<tr>
<td>Grade 5 to 8 teachers who attended the basic seminar in Active Learning</td>
<td>Questionnaires 1, 2A, 4, 6, 8</td>
</tr>
<tr>
<td>Grade 5 to 8 teachers who attended the supervisory seminar in Active Learning</td>
<td>Questionnaires 1, 2A, 2B, 4, 6, 8</td>
</tr>
<tr>
<td>Grade 5 to 8 chemistry teachers who attended the basic seminar in Active Learning</td>
<td>Questionnaires 1, 2A, 4, 6</td>
</tr>
<tr>
<td>Grade 5 to 8 chemistry teachers who attended the supervisory seminar in Active Learning</td>
<td>Questionnaires 1, 2A, 2B, 4, 6</td>
</tr>
<tr>
<td>Active Learning Instructors</td>
<td>Questionnaires 1, 3</td>
</tr>
<tr>
<td>Teachers in combined classes</td>
<td>Questionnaires 1, 2A, 3, 7</td>
</tr>
<tr>
<td>Teachers in Roma classes</td>
<td>Questionnaires 1, 2A, 2B, 4, 6, 8</td>
</tr>
</tbody>
</table>

Based on the reports and monitoring forms which arrived with the completed questionnaires, it can be concluded that there were no major problem in the implementation of the research procedure. The only objection brought up by the majority of interviewees referred to the length of the questionnaire. Some coordinators had objections about the amount of information and time required to complete the questionnaire. The field part of the research was not finished by the projected date (12/12/2003).

The research was extended because of the following reasons:

1. Extremely bad weather and traffic conditions (Sjenica, Užice and Novi Pazar)
2. Shorter and longer periods of interviewee illness
3. Change of interviewees place of work

Shorter and longer periods of interviewee absence from their place of residence

IN THE FIELD
*The field research took place between the 1st and 24th of December, 2003. 19 above mentioned interviewers performed the research.*
APPENDIX 3

RULEBOOK FOR MODEL SCHOOLS - REGIONAL ACTIVE LEARNING CENTRES

General rules, general comments:

- In the ALT schools network there are four categories of schools:
  • a school-regional centre for implementation and development of ALT (SRC)
  • a school - candidate for SRC
  • an ALT model-school for a specific programme
  • a school that is a member of ALT network (ALT schools network comprises all those schools that have passed through ALT training and have been applying and developing this methodology of work in different fields in their environments)

- The school-regional centre failing to meet the requirements for keeping up shall lose its status, and the second (in ALT activities) successful school from the region can run for the position of a school-regional centre.

- ALT model-school for specific curricula acquires such status and has the same rights as SRC (in accordance with this Book of Rules). These schools develop special modules for specific schools or parts of population (schools with classes in minority languages, for talented students, for extracurricular activities, for special need children, and the similar). In all other activities, they fit in the curricula of the appropriate school-regional centre (SRC).

- ALT instructors from the region must cooperate with school-centres.

Belgrade, October 2002

1. CONDITIONS FOR ACQUIRING THE STATUS OF A SCHOOL – REGIONAL CENTRE

1.1 In the school

1.1.1 That at least one-third of the teachers of that school has attended the basic and supervisory ALT seminar.

1.1.2 That at least for one-third of subjects one each teacher has received ALT training (basic and supervisory seminar).

1.1.3 The school must have at least one expert assistant and at least one teacher in the calling of an ALT instructor or instructor-supervisor.

1.1.4 The school ought to have some twenty new scenarios annually, covering different subject. Since each teacher who has received ALT training should have the minimum of two (written and analyzed) scenarios in a year, the number of teachers working in the school approximately determines the number of scenarios the school should have per year.

1.1.5 The school-centre is obligated to have at least two ALT classes per annum that have been analyzed by sequential analysis technique (with some reworking).

1.1.6 The school-centre is compelled to keep a detailed documentation about ALT work and activities at school (scenarios for ALT classes, video tapes with videotaped classes, data about seminar
participants, teachers and expert assistants in ALT, etc.). An important part of that documentation is maintaining of a computer database (the form for data entry will be uniform for all schools-ALT centres and will be prepared by the Project authorial team).

1.2 In the region

1.2.1 Recording of the needs for ALT training in the region (demand for seminars in the region, signing up of the interested in seminars, and similar).

1.2.2 Making of the annual plan of work and ALT activities in the region, in cooperation with the Coordinator of the entire ALT Project from the Institute of Psychology.

1.2.3 Rendering assistance in organizing of ALT seminars in the region:

- giving information
- contacts with ALT coordinators in the Institute of Psychology and Ministry of Education
- lending of ALT equipment required for seminars, videotapes of classes and performed seminars necessary for realization of a seminar

1.2.4 Plan for usage of the local ALT budget to support ALT activities in the school and in the region (according to the funds planned for the whole project).

1.2.5 Employment of ALT equipment: all the equipment obtained for the purposes of ALT activities should be employed in ALT activities by the regional schools (e.g. borrowing of a video camera to shoot a model class and similar). An important part of this task is duplicating of various instructional materials (for example, analyzed ALT classes from other environments, relevant ALT texts) for the requirements of the schools in the given region.

1.2.6 Cooperation with all ALT instructors and instructors-supervisors in the region.

1.2.7 Promotion of the performed (ALT activities and results at school, other schools or through local media).

1.2.8 Organizing of post-basic activities (exchange of scenarios performed in the region, joint encounters of the active members regarding elaboration of ALT in the specific subject, analysis of scenarios for ALT classes, sequential analysis of the performed classes).

1.2.9 Monitoring and evaluation of ALT implementation in the region (keeping of documentation is an important part of monitoring, but small analysis of the quantity and quality of the performed are obligatory).

2. CONDITIONS TO MAINTAIN THE STATUS OF A SCHOOL-REGIONAL ALT CENTRE

The status of a school-regional centre is obtained for two (school) years. After the expirations of the two-year period, verification is carried out to check if the school has met all the conditions to maintain its status.

2.1 In the school

2.1.1 Increased number of teachers who have attended the basic and supervisory ALT seminars.

2.1.2 Increased number of subjects in which the teachers have been trained to implement ALT methodology of work.

2.1.3 Making and analysis of ALT scenario by “number of teachers x two per year” formula, with the minimum of two videotaped extremely good ALT classes, analyzed by sequential analysis.

2.2 In the region

2.2.1 Coordination of realization of the annual ALT plan in the region.
2.2.2 Servicing of schools in realization of the annual plan (photocopying of instructional materials, collecting and keeping of documentation).

2.2.3 Organizing of small post-basic ALT activities in the region (analysis of the seminars for ALT classes, exchange of experiences and agreements on collaboration).

2.2.4 Involvement of the member schools of ALT network (verifying conditions fulfilment, organizing cooperation).

3. **ALT COORDINATOR IN THE SCHOOL-REGIONAL CENTRE**

3.1 Project Coordinator shall appoint one Coordinator for the given region in each school-regional centre.

3.2 The appointment of a regional ALT Coordinator can be assigned to an instructor-supervisor, expert assistant, instructor-supervisor, teacher, instructor-expert assistant, and/or instructor-teacher.

3.3 Job description of a Coordinator in the school-regional centre:

   - Coordinates ALT activities in the school-regional centre and in the region, in cooperation with all the instructors and/or instructors/supervisors (see 2.1.1, 2.1.2 and 2.1.3).

   - Communicates with Project Coordinator in the Institute of Psychology and Ministry of Education.

4. **RIGHTS EXERCISED BY THE SCHOOL-REGIONAL ALT CENTRE**

4.1 The school-regional ALT centre becomes a methodic centre of the Ministry of Education and Sports.

4.2 The school has right to be provided with the equipment, instructional material and expendable supplies from the budget allocated for ALT Project activities.

4.3 The school is entitled to funds from the local budget for realization of ALT activities in the region.

4.4 Affirmation of the school s a centre for innovations.

4.5 The school will be in ALT web page (within the Project web page each school-model centre shall have its short presentation in Serbian and English).

4.6 In the ALT Project intranet, the school-centre is entitled to directly use all resources available within the ALT Project (data, texts, classes, evaluations, and analyses relevant for the classes of quality).
VALUATIVE REVIEW OF ACTIVE EARNING IN SERBIA AND MONTEREGI

1994 - 2004
### APPENDIX 4

**THE RULES ON ROLES OF PROJECT ASSOCIATES**

**PRIMARY-SCHOOL TEACHERS (SENIOR GRADES)/ EXPERT ASSOCIATES (PSYCHOLOGISTS, PEDAGOGUES)**

**SECONDARY-SCHOOL TEACHERS OF INDIVIDUAL SUBJECTS AND PRIMARY-SCHOOL TEACHERS (JUNIOR GRADES)**

<table>
<thead>
<tr>
<th>Active Instruction Teacher- Active Learning Teacher (Trainee)</th>
<th>Level 0</th>
<th>Active Instruction Associate – Active Learning Teacher (Trainee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed basic Active Learning seminar</td>
<td>How to become</td>
<td></td>
</tr>
<tr>
<td>The title is automatically lost after 2 years unless the candidate took further steps</td>
<td>Temporary Title</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Completed basic Active Learning seminar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The title is automatically lost after 2 years unless the candidate took further steps</td>
<td></td>
</tr>
</tbody>
</table>

**Active Instruction Teacher**

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Active Instruction Associate</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to become</td>
<td></td>
</tr>
<tr>
<td>Active Instruction Teacher / Active Instruction Associate Certificate acquired</td>
<td></td>
</tr>
</tbody>
</table>

1. Level 0 required (completed basic seminar).
2. Teacher-trainee is required to elaborate at least 5 scenarios for class (with or without instructor) and they need to be analysed and verified by instructor.
3. Active Learning Teacher-Trainee is required to teach at least 3 classes according to supplemented scenarios.
4. A copy of scenarios with comments on classes is sent to the Institute of Psychology (“Active Learning headquarters”).

1. 0 Level required (completed basic seminar).
2. Needs to participate together with Active Learning Teacher in elaboration of at least 5 scenarios for classes; scenarios need to be analysed and verified (reviewed by instructor).
3. Helps Active Learning Teacher to teach Active Learning classes.
4. A copy of scenarios with comments on classes is sent to the Institute of Psychology (“Active Learning headquarters”).
1. At least 3 elaborated scenarios analysed by instructor (Instructor-Teacher/Instructor-Expert Associate) annually.
2. At least 2 Active Learning classes held annually (classes must be analysed by Active Instruction Associate/Active Instruction Teacher – Instructor).

To keep the title/certificate the following is required every year:
The title is automatically lost after 2 years unless the candidate fulfilled minimum criteria to keep it.

1. At least 3 scenarios elaborated annually together with Active Instruction Teacher and analysed by instructor (Instructor-Teacher/Instructor-Expert Associate).
2. To participate together with Active Instruction Teacher in teaching at least 2 classes a year (classes must be analysed by Active Instruction Associate/Active Instruction Teacher – Instructor).

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**Instructor-Teacher, emphasis put on field of expertise – biologist, Serbian language teacher**

1. Valid Active Instruction Teacher Certificate.
2. Trained for sequential analysis and scenario analysis (completed seminars on implementing Active Learning teaching ideas (supervision seminar 1 and supervision seminar 2)).
3. Didactic scenario analysis with Instructor-Supervisor or didactic sequential analysis (at least 3 classes from their field).

1. Writes Comments on Classes (made by Active Instruction Teacher/Active Instruction Associate, Level 1), sent to the Institute of Psychology ("Active Learning headquarters") with class scenario.
2. To have at least 3 analysed scenarios + 2 sequential analysis classes from their field annually.
3. Supervisorship for teachers: together with teachers from their field they should draw up at least 1 new scenario (other than that from Level 1) annually and teach at least 1 new class together with them.

**Level 2**

How to become

Instructor-Teacher/Instructor-Expert Associate Certificate acquired (valid for 24 months)

The following is necessary after 24 months the title/certificate:
The title is automatically lost after 2 years unless the candidate fulfilled minimum criteria to keep it. In that case the candidate retains the former title!

---

**Instructor-Expert Associate**

1. Valid Active Instruction Associate Certificate.
2. Trained for sequential analysis and scenario analysis (completed seminar on implementing Active Learning 1 teaching ideas (supervision seminar 1 and supervision seminar 2)).
3. To perform didactic scenario analysis or didactic sequential analysis (at least 3 classes) together with Instructor-Supervisor.
4. Required to assist in conducting 2 Active Learning basic seminars (conducting parts of seminar).

1. Writes Comments on Classes (made by Active Instruction Teacher/Active Instruction Associate, Level 1), sent to the Institute together with class scenario.
2. Has at least 3 analysed scenarios + 2 sequential analysis classes from their field annually.
3. Supervisorship for teachers: elaborates together with teachers at least 1 new (other than that from Level 1) scenario annually and teaches at least 1 new class with them.
4. Is assistant in conducting at least 2 basic seminars.

---

**Instructor Supervisor – Teacher**

1. Must have valid Instructor-Teacher Certificate.
2. Completes instructor seminar for holding basic Active Learning seminar.
3. Completes instructor seminar for holding supervision seminars on Active Learning implementation.
4. Reviews at least 3 scenarios (on which he has comments in writing).
5. Conducts at least 1 basic seminar annually.
6. Must hold at least 2 supervision seminars annually.

**Level 3**

How to become

1. Must have a valid certificate for Instructor Expert Associate.
2. Must have completed instructor seminar for holding basic Active Learning seminar.
3. Must have completed instructor seminar for holding supervision seminars on implementing Active Learning in practice.
4. Must have reviewed at least 3 scenarios (with comments in writing).
5. Conducting at least 1 basic seminar a year.
6. Must conduct at least 2 supervision seminars annually (supervision seminar 1 and supervision seminar 2).

---

**Instructor Supervisor – Expert Associate**

1. Must have valid Instructor-Teacher Certificate.
2. Completes instructor seminar for holding basic Active Learning seminar.
3. Completes instructor seminar for holding supervision seminars on Active Learning implementation.
4. Reviews at least 3 scenarios (on which he has comments in writing).
5. Conducts at least 1 basic seminar annually.
6. Must hold at least 2 supervision seminars annually.
1. Must hold at least 2 supervision seminars annually.
2. Must have held at least 2 basic seminars annually.
3. Should initiate and conduct at least 2 zero seminars (any promotional seminar).
4. Should conduct a didactic scenario analysis or didactic sequential analysis (at least 3 classes with Teacher/Expert Associate Instructor).
5. Popularization, marketing, presentation of Active Learning ideas (writing for professional magazines and other newspapers on Active Learning).

To keep the title/certificate the following is required:

To keep the title/certificate the following is required:

The title is automatically lost after 2 years unless the candidate fulfilled minimum criteria to keep it. The candidate retains the former title!

1. Must conduct at least 2 supervision seminars annually.
2. Must have held at least 2 basic seminars annually.
3. Should initiate and conduct at least 2 zero seminars (any promotional seminar).
4. Should conduct a didactic scenario analysis or didactic sequential analysis (at least 3 classes with Teacher/Expert Associate Instructor).
5. Popularization, marketing, presentation of Active Learning ideas (writing for professional magazines and other newspapers on Active Learning).

Note:
- Any higher level can operate on any lower level as well;
- Rights acquired by a certificate are defined outside this table and they are subject to changes;
- All classes enter a video library and are nominated for the best class annual award (best teacher);
- From Level 2 onwards everyone must keep their own record of what has been done (complete documentation).
APPENDIX 5

CLASSROOM OBSERVATION –
THE SUGGESTED FRAMEWORK

2 observers should observe a 45 minute period. Each observer focuses either on the teacher or the students – but report form is amalgamated at end. At the start of the lesson, the first observations are written down. After every period of 5 minutes and every 5 minutes following, notes are written reflecting what is happening at that moment.

| Classroom Environment | Y | Comments:
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student seating arrangement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair</td>
<td></td>
<td></td>
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<tr>
<td>Small group</td>
<td></td>
<td></td>
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<tr>
<td>Storage for learning materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessible for students Y/N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall display?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) learning aids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) children’s work</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Content</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson plan/scenario – objectives, student activities, Evaluation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher talk:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E – explaining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qt – question teacher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wt – wait time - yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wtx – wait time - none or little</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i – direct instructing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>m – managing</td>
<td></td>
<td></td>
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<tr>
<td>o – observing dialogue with t</td>
<td></td>
<td></td>
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<tr>
<td>c – correcting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d – disciplining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p – giving praise</td>
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</tr>
</tbody>
</table>

Note: the framework for classroom observation lies in the three main criteria for assessing quality in classrooms – that of content, process and environment. Gender issues are also addressed by considering differentiated interaction with the teacher.
<table>
<thead>
<tr>
<th>Students interaction with teacher</th>
<th>Qs – question asked by student girl</th>
<th>Qs – question- student boy</th>
<th>ch1g – child answers - girl</th>
<th>ch1b – child answers - boy</th>
</tr>
</thead>
<tbody>
<tr>
<td>mode of class interaction</td>
<td>t – teacher dialogue with whole class</td>
<td>ts – teacher dialogue with students</td>
<td>g – working in groups</td>
<td>p &gt; p – pupil / pupil discussion on task</td>
</tr>
<tr>
<td></td>
<td>not likely on task</td>
<td>General interest / attention</td>
<td>More than 50% class on task</td>
<td>Less than 50% class on task</td>
</tr>
<tr>
<td>Resources used</td>
<td>tw – teacher worksheet</td>
<td>tb – textbook</td>
<td>bb – blackboard</td>
<td>wb – white board</td>
</tr>
<tr>
<td></td>
<td>ohp – overhead projector</td>
<td>other learning materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written comment / summary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signatures of observers</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
EVALUATIVE REVIEW OF ACTIVE LEARNING IN SERBIA AND MONTENEGRO 1994 - 2004
SUMMARY

MAJOR FINDINGS IN THE EVALUATIVE REVIEW OF ACTIVE LEARNING PROJECT

TRAINING OF TRAINERS

1. Training is highly appreciated by trainers.
2. Project is producing insufficient number of trainers at supervision level,
   • Contributing to a timely transition bottleneck.
3. Insufficient number of trainers being produced who have teaching experience,
   • Particularly at subject level.
4. Some trainers have not done basic and supervision seminars; others have not done trainers seminar.

TEACHER TRAINING CYCLE

BASIC SEMINAR

1. Good internal motivation to attend on part of teachers.
2. Lack of effective prior material to prepare participants.
3. Highly appreciated by teachers,
   • Trainers strongly rated.
4. Content most appreciated as applicable: teacher’s activities, teaching-learning methods, educational workshop.
5. Topics desired or for reinforcement: assessment (particularly formative); applying AL in current conditions; educational workshops; multigrade situations; for Roma children.
6. Training material needs to be improved.
7. More practical materials needed.
8. Too many teachers waiting too long to make transition to supervision; situation getting worse.
9. Trainers who conduct the workshop find two topics difficult to deliver.
   • Educational workshop (though they consider it very important).
   • Student or child.

POST SUPPORT

1. Average of 0,8 supervisory visits reported in Republic of Serbia, 2,1 in Republic of Montenegro.
2. Visits are mostly appreciated by teachers
3. Instructors consider main constraints on supervisory visits to be inadequate number of instructors, its voluntary basis, and lack of clarity as to what is expected of teachers.
4. Colleagues play an important role in providing support after training, with instructors, coordinators and facilitators playing a small role.
5. In the Republic of Serbia, teachers are slightly positive about the quantity of support they receive, and neutral about its quality. In the Republic of Montenegro, teachers are more positive about the quantity of support they receive, and very positive about its quality.

SUPERVISION SEMINAR

1. Highly appreciated by teachers,
   • Trainers strongly rated.
2. Content highly appreciated.
   • Sequential analysis is found to be very useful.
   • Self-rating of confidence to apply is 3,6.
   • Constraints are time and effect on observed teacher’s performance.
POST SUPERVISION SUPPORT

1. Average of 1.6 supervisory visits reported in Republic of Serbia, which were considered mostly or very useful by teachers.
2. Teachers received feedback 37% of time on scenarios sent to instructors.
3. Colleagues play an important role in providing support after training.
4. Teachers are slightly negative about the quantity of support they receive, and neutral about its quality.

APPLICATION OF ACTIVE LEARNING IN THE CLASSROOM

1. Supervision-trained teachers report at least partial application in 66% of classes, and full application in 30%.
2. Supervision-trained teachers report using 5.1 scenarios in past year (approx. 2-5% of classes, depending on category of teacher).
3. Main factors encouraging application:
   - Positive student reaction,
   - Quality of knowledge obtained (longer-lasting, better understood, more transferable).
4. Main constraints on application:
   - Lack of teaching-learning materials,
   - Lack of time to prepare (average preparation time is 1.5 hours),
   - Lack of support.
5. Those who apply sequential analysis rate it highly useful
6. Teachers have conducted on average 1.5 sequential analyses in past year.
7. Constraints on conducting sequential analysis are time, insufficient training, and unfavourable atmosphere in school.
8. Application of AL increases from basic to supervision training.

EFFECTS OF APPLICATION OF THE AL

1. Teachers rate effects highly in all regards (e.g. creativity; cooperative working; student-teacher relationship; ability to pose questions and to think critically and independently).
2. Teachers think school atmosphere (in terms of cooperation with colleagues and other partners) has improved in all regards.
3. Teachers rate positively the effects on themselves (e.g. meeting needs for professional development, cooperation and teamwork).
4. Teachers’ ratings increase from basic to supervision training.
5. Main strengths of AL reported by teachers are fostering of partnership between teachers and students, and improvement of teaching practice.
6. Main weaknesses of AL reported by teachers are lack of material resources (incl. teaching-learning materials), and preparation time required.

PROJECT COVERAGE

1. 13,085 teachers trained to basic and 6,451 to supervision level in the Republic of Serbia.
2. 2,800 teachers to supervision level in Republic of Montenegro, with full coverage of grades 1-3.

PROJECT TRAINING COSTS AND FINANCING ISSUES

1. Average cost to fully train teacher in AL (5 days basic plus the supervision) is USD 47,84 - lower than similar projects and government training programmes.
2. Presuming the timely transition bottleneck is broken quickly by increasing the number of supervision seminar trainers, it will take until 2008 to train all teachers to basic level and 2009 to train all teachers to supervision level. This will cost approx. three million USD.
3. Per student spending varies inversely with PTR and directly with per capita GDP. The former is the effect of the Republican budget, which has a positive impact on equity. The latter is the effect of the Municipal budget, which has a negative impact on equity.
4. Municipalities are now responsible for financing professional development. This will present difficulties particularly for the poorer municipalities.

PROJECT EQUITY

1. Trainings appear to have been more common in poorer municipalities (as measured by p.c. GDP).
2. Teachers with Roma students are neutral about applicability of AL seminars for Roma
children, in sharp contrast to teachers in general.

PROJECT IN THE CONTEXT OF REFORM

1. Project has made significant contribution to curricular reform process.
   - The aims and the activities of the project, defined and successfully implemented during a challenging time, had an influence on the aims and content of the reforms.
   - A large number of teachers open to reforms and willing to implement.
     - Grade One teachers trained in AL report higher acceptance of curricular reform measures.
     - Grade One curricular reform training rated as more applicable by teachers trained in AL.
   - Anecdotal evidence about teachers trained in AL more able to implement reforms, and are doing so.
- Project people and trainees in key positions of influence.
- Numerous personnel in pedagogical supervisory services have been trained in AL (full coverage in the Republic of Montenegro).
- Regional Centres provide basis for development of teacher networks, which are being promoted as part of reform process.

2. Active Learning course is an accredited in-service course for professional development; course is one of seven particularly recommended by Ministry.

3. Reforms call for decentralization of professional development (including certain management responsibilities and all funding responsibilities), but there is as yet no institution or mechanism to ensure management, and there is concern about municipal capacities to fund (particularly in poorer areas).

PROJECT PLANNING, MANAGEMENT AND MONITORING

1. To be developed.
2. There is no baseline.
3. There is inconsistency in the records about basic achievements, such as the number of seminars held.
4. There is project monitoring, but no project management information system.
   - There is no set of process and output/outcome indicators regularly monitored.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL</td>
<td>Active Learning</td>
</tr>
<tr>
<td>ALP</td>
<td>Active Learning Project</td>
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<tr>
<td>ALT</td>
<td>Active Learning Training</td>
</tr>
<tr>
<td>CGE</td>
<td>Centre for General Education (Montenegro)</td>
</tr>
<tr>
<td>CPD</td>
<td>Centre for Professional Development</td>
</tr>
<tr>
<td>CTPD</td>
<td>Centre for Teacher’s Professional Development</td>
</tr>
<tr>
<td>CRC</td>
<td>The Convention on the Rights of Child</td>
</tr>
<tr>
<td>DSA</td>
<td>Daily Supplemental Allowance</td>
</tr>
<tr>
<td>EFA</td>
<td>Education for All</td>
</tr>
<tr>
<td>EMIS</td>
<td>Education Management of Information System</td>
</tr>
<tr>
<td>G17</td>
<td>G17 Institute - Belgrade Centre for Research</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
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<td>MoE</td>
<td>Ministry of Education</td>
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<td>MoEs</td>
<td>Ministries of Education (Serbia and Montenegro)</td>
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<td>Ministry of Education and Sports (Serbia)</td>
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<td>Ministry of Education and Science (Montenegro)</td>
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<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>NPA</td>
<td>National Plan of Action for Children</td>
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<tr>
<td>NGO</td>
<td>Non Governmental Organisation</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
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<td>PRSP</td>
<td>Poverty Reduction Strategy</td>
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<td>PTR</td>
<td>Pupil Teacher Ratio</td>
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<td>Regional Centre</td>
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<td>Scenario Analysis</td>
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<td>Sequential Analysis</td>
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<td>SCQAE</td>
<td>Serbian Centre for Quality Assurance</td>
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<td>Teaching and Learning Materials</td>
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<td>Terms of Reference</td>
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<td>Training of Trainers</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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</table>
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BIBLIOGRAPHY


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