Report on organizing the ROSE survey in Turkey

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1. ROSE team

A-Name of contact persons

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B-Name of coworkers

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2. School system and science teaching

GENERAL STRUCTURE OF THE EDUCATIONAL SYSTEM IN TURKEY

A. FORMAL EDUCATION

Formal education is the regular education of individuals in a certain age group and given in schools at the same level with programs prepared for definite purposes. Formal education includes Pre-Primary education, primary education, secondary education and higher education institutions.

A.1. Pre-Primary education

Pre-Primary education includes the optional education of children between 36-72 month who are under the age of compulsory primary education. Pre-Primary education institutions, independent nurseries are opened as nursery classes and practical classes within formal and non-formal education institutions with suitable

physical capacity. The purpose of Pre-Primary education is to ensure physical, mental and sensory development of children and the acquisition of good habits, to prepare children for primary education, to create a common atmosphere of growth for those living in inconvenient circumstances and to ensure that Turkish is spoken correct and well.

A.2 Primary Education

The purpose of primary education is to ensure that every Turkish child acquires the basic knowledge, skills, behaviours, and habits to become a good citizen, is raised in line with the national moral concepts and is prepared for life and for the next education level parallel to his/her interests and skills.
Primary education is compulsory for all citizens, boys or girls, and is given free of charge in public schools. Primary education institutions are schools that provide eight years of uninterrupted education, at the end of which graduates receive a primary education diploma.

A.3. Secondary Education

The purpose of secondary education is to give students a minimum common culture, to identify individual and social problems, to search for solutions, to raise awareness in order to contribute to the socio-economic and cultural development of the country and to prepare the students for higher education, for profession, for life and for business in line with their interests and skills.

A.4. Higher Education

Among higher education institutions are universities, faculties, institutes, higher education schools, conservatories, vocational higher education schools and application-research centres. The purpose of higher education is to raise the students in line with their interests and skills, in conformance to the science policy of the country and in consideration of qualified manpower needs of society at several levels, to do researches in scientific areas, to arrange for all kinds of publications that show the research and examination results and facilitate advancement of science and technology, to finalize the researches and examinations demanded by the government and to make comments, to make written or oral public announcements

explaining the scientific data that shall increase the general level of Turkish society and enlighten the public, and to give non-formal education.

More information about the structure of educational system in Turkey is available from http://www.meb.gov.tr

B-SCIENCE TEACHING

In Turkey, primary school students have difficulty in learning science. This claim is supported by the outcomes given in the Third International Mathematics and Science Studies (TIMSS) reports in 1999. In this study, Turkey took its place in the last rows. Of course, there are lots of reasons for this failure. Some of the significant reasons are related to the present situation of science teachers, school environment, and curriculum.

The number of students in the classes in Turkey is around 40. In some primary schools, this number increases to 50-55. In most of the primary schools, science laboratories cannot be used efficiently either because of the lack of equipment or because of the lack of sufficient time. This crowd prohibits the teachers from applying different learning and teaching strategies. Courses are usually taught by the teacher's lecturing. In most of the private schools this situation is enhanced by reducing the number of students (around 25-30) in classrooms and integrating technology into teaching.

Important changes in the curriculum took place in the year 2000 when the primary school science curriculum was brought up to date. The new primary school science curriculum was devised based on constructivist approach. It also emphasizes communicating ideas with others in a civilized manner, by means of presenting the knowledge they have gained either orally or in writing. The program includes subjects related to the earth, space and the environment, in addition to more traditional topics in physics, chemistry and biology. The subjects have been organized in a well balanced way according to the science branches and classes and the level of the subjects has been determined terms of the pupils' ages. In addition, the topics which involve lots of mathematical processes have been lessened and transferred into a format in which students can understand the science concepts better.

Even these enhancements, the curriculum is still overloaded. At present, science courses are taught within three hours in a week. In this period, it is not possible for the students to acquire all the concepts, to run experiments, to make some researches, to make observations, and to do projects.

3. Translation

The ROSE questionnaire was translated into Turkish as a first draft by Teoman KESERCIOGLU, Bulent CAVAS, Aysel UNSAL and Pinar CAVAS. Omer Faruk HUYUGUZEL proofread and gave us feedbacks/comments about relevance of Turkish Language on ROSE questionnaire. In February 2003, after four meetings, the Turkish version of ROSE questionnaire was regarded as finalized by the Turkish ROSE team.

When we are translating the questionnaire, we found some words that were hard to translate. Here is the some example: homeopathy, healing etc. We put simple expression for this word.

4. National questions

We added two items for background variables for information on parents and we did not add any items in the questionnaire.

We thought that we can compare parental information with the ROSE questionnaire. The items which we put on the first page:

Mother's education
Father's education
Mother's occupation
Father's occupation

5. Piloting

We did not test ROSE questionnaire because of the limitation of the time.

6. Official permission

For the official permission, a ROSE project presentation was presented by Bulent CAVAS and Teoman KESERCIOGLU at Ministry of Education-Education Research and Development Directorate (ERDD) in Ankara where capital city of Turkey. After this presentation and corresponding with Ministry of Education, it was accepted to carry out ROSE project in Turkey.
ROSE questionnaires were sent to 21 cities and 63 schools by ERDD. Completed ROSE questionnaires turned back to Dokuz Eylul University for data analyzing

7. Population

The ROSE target population in Turkey was the cohort of 15 year old Turkish pupils living in our country in 2003.

8. Sample and participation

The ROSE survey was conducted in Turkey in February and June 2003. A sample of 1260 Turkish pupils was selected. The questionnaires were sent to 23 cities (69 schools) which were selected by the Education Research and Development Directorate. The selection criteria were the economical development level for the schools in each city. Unfortunately, in two cities, questionnaires were administrated to students at primary level accidentally. They were excluded.

9. Data collection in schools

The questionnaires were sent to schools by Education Research and Development Directorate with an official letter. At each school, the principals of school appointed one person who could organize the project locally. The questionnaires were filled in one course hour (app. 45 minutes). We did not give permission to students to get questionnaire to take their home. There was no attached a letter for parents.

10. Feedback and experiences

We had no serious problem to get data.

Bulent Cavas and Teoman Kesercioglu attended ROSE workshop which was held in Oslo between October and November. Bulent Cavas's application for scholarship for

Norway was accepted by the Turkish National Ministry of Education. He will continue ROSE studies at Oslo coming August.

11. Coding (also of the open-ended I question)

All the Turkish responses were coded by Bulent Cavas, Pınar Cavas and Efe Gucluer. We coded directly into SPSS, sometimes we used Excel if there is no SPSS program in computer. All researchers used "ROSE Handbook" when they were coding into SPSS or Excel.

In some questionnaires the respondents had obviously not taken the task seriously, e.g. by making symmetric patterns in the response categories. Such questionnaires were excluded.

In the middle of the summer (2003), the coding was completed.

Bulent Cavas proofread the coded file by searching for misprints like empty cells, cells coded with two digits, and cells coded with letters different from the allowed letters for the question. Such coding errors were corrected by looking up the question in the corresponding questionnaire.

In the middle of August 2003 the Turkish SPSS file was finalized - with 1260 respondents evenly distributed on

- 680 girls (54 %)
  580 boys (46 %)

- 25 13-year-olds (2 %)
  75 14-year olds (6 %)
  464 15-year-olds (36.8 %)
  640 16-year-olds (50.8 %)
  56 17-year-olds (4.4 %)

Izmir, March 2004 Bulent CAVAS