Report on organizing the ROSE survey in Latvia

Janis GEDROVICS, janis.gedrovics@rpiva.lv,
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1. ROSE team

The Latvian ROSE team consists of docent Dr.chem. Janis GEDROVICS (team leader, contact person), assoc.prof. Dr. biol. Gunita PRAULITE, assoc. prof. Dr. biol. Jekabs Raipulis, docent Dr. biol. Juris Porozovs, as well as student teacher Dace Lezdina. A brief period Lauris LIELDIENS was included in the team. We are all located at Riga Teacher Training and Educational Management Academy (RTTEMA), Riga, Latvia, Faculty of Pedagogics, Department of Dance and Sports Pedagogics.

3. School system and science teaching

The Latvian school system has nine years of compulsory education. Children start at school at the age of 7, and are 15/16 when they leave. Compulsory school is not divided into steps, although there are some difficulties within teaching for grade 1st to 3 (4) with *class teacher* who teach mostly subjects, and for grades 5 to 9, which have *subject teachers* in all school subjects.

All students who learn in grade 1 – 3 (4) have Nature lessons (dabas maciba, *naturfag*), 1 h. per week. From grade 6 the student learns biology which begin with botany followed by zoology (grade 8) and Men's anatomy and physiology (grade 9). Chemistry and physics teaches from grade 8 as a course with 2 h/ week for chemistry and 2 h/week for physics. The students in grade 5 begin geography too, it is s.c. nature geography.

There are no grouping of students based on their gender or other aspects such as religion, social status etc. But there are some schools for pupils with special learning needs f ex with some mental or physical difficulties.

4. Translation

Together with the acknowledgement of the potential respondents the original questionnaire has been translated into Latvian and Russian. As Russian and Latvian schools have been deliberately chosen we are absolutely aware of the necessity for this translation into native languages, although Latvian is an officially language in Republic of Latvia, and the trends are to go gradually to one teaching language namely Latvian at secondary school level. Only them we can expect to get the most precise answers of students.

This, in turn, demands separate assessment of the questionnaires in the context of the teaching language. Some differences can be seen in Latvian and Russian translations, as well as different perception and comprehension of the text. Later, in the middle of the translating period we decided to use the translation in Russian performed in Russia, University of Petrozavodsk (S.Bogdanov). Such approach would let us make the comparison of the students from Latvia with those from Russia.

Due the financial support both from RTTEMA and ROSE-project 1400 questionnaires have been made, 950 of them in Latvian and 450 in Russian. The agreement with schools

principals interested in participating of ROSE-project has been made beforehand, and then they were sent to 40 different schools (fig.1) in the middle of March 2003, and 1216 questionnaires have been received during one month.

4. National questions (variables)

The guidelines of ROSE-project envisage the so called national variables and their involvement in the questionnaires. In the context of Latvia these variables are very important, that's why special attention was paid to their selection. Educational system in Latvia is different from many other countries educational system. Teaching is done separately: there are schools with Latvian language[1] and schools with Russian language teaching. From the soviet times some schools with Latvian and Russian classes have been preserved. They have been called *mixed schools*. However, we must emphasize that the teaching language is not determined by the nationality of a pupil (or student), but his/ her (or more exactly – his/ her parents) choice of the language which should be used in the teaching process. That is why many children of Russian as well as other nationalities are really successful in studying in Latvian schools.

The ROSE target population in Latvia as in the whole ROSE-project is the cohort of 15 year old pupils. According to the information provided by the Ministry of Education and Science they are mostly students in the 9th class, and in the study year 2002/2003 two thirds of all students of 9th class were studying in schools with Latvian language and one third in schools with Russian language. Taking into consideration this proportion the decision has been made – to involve into research approx. two thirds of classes with Latvian teaching language and one third from Russian speaking classes. *Teaching language* thus has been chosen as one of 4 national variables.

Another factor determining the choice of respondent classes was concreted with the geographical location. Historically Latvia has been formed of 4 regions (fig.1) Kurzeme, Vidzeme, Zemgale and Latgale. Despite the relatively small area of Latvia (64,589 km²) each of those regions have gone through different economically historical conditions with time passing. Although there are not antipodal differences between the regions, we considered it necessary to review the *regions* as possible criteria of the assessment.

Capital of Latvia, Riga, has its peculiar place. Its area (almost 300 km²) takes only 0.5% of all area of the country, but the population of Riga (about 790 000 inhabitants) makes one third of all population of Latvia. Due to this reviewing Riga as a separate unit (region) is quite reasonable. So the region has been chosen as the second national variable, and we have in Latvia thus five categories for the second national variable *region* such as Kurzeme, Vidzeme, Latgale, Zemgale and Riga.

On the other hand – comprehensive schools are located in big cities, district centres and also in quite small places (villages, parish centres etc.). So, the assessment of results is envisaged considering also the size of the inhabited settlement. It has to be admitted that in this case it is more difficult to define precise criteria, so the categories of the third national variable are concreted with the *administrative division* of the state as well as the legal status of the settlement.

The fourth of all national variables was used for the *identification* of the school. We must add that these are quite a lot of the schools which usually have only one 9th class, especially in the countryside, and the number of pupils is often under 20. This situation can be

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[1] There is also a small number of schools of national minorities such as Lithuanians, Estonians etc. In those schools the teaching language is different, for example Lithuanian, Polish etc. Part of the subjects have been thought in Latvian and/or Russian.

regarded as the consequences of the socially economical changes which have taken and are still taking place after the separation from the former USSR.

So we have in Latvia 4 national variables - *region*, *type of settlement*, and *teaching language*, as well as *identification number* of participating schools. The last one was necessary by further sorting of responding schools, as well as for future contacts with school principals and teachers who would like know the results of ROSE project and their analyse in Latvia.

5.   Piloting

The piloting was carried out in one Upper secondary school in Riga (in the beginning of March 2003), and it certificated that there needs about 40-45 minutes for all pupils aged 15/ 16 to fill in questionnaires. The pupils had great interest and a relatively high responsibility about their answers. Some pupils said that they are partly tired after this piloting. We ascertained that there was few questions/ tasks which was not easy to understand, and they has been corrected before we copied all questionnaires.

The questionnaires obtained in this school was not included in the whole group of respondents.

6.   Official permission

The preparation had involved also introducing the Latvia' Ministry of Education and Science with the project in general. It ensured getting the agreement from Ministry for performing the ROSE-project even thought it is not obligatory according to the legislation of Republic of Latvia. The Department of Comprehensive Education has sent the letter of information to all educational authorities in all the districts.

7.   Population

The ROSE target population in Latvia was the cohort of 15 year old pupils, mostly of them learns in the grade 9 which is the oldest form in our compulsory school. But there was some 16 year old pupils in the same classes, therefore we asked principals to invite in ROSE project such classes where most 15-year old pupils were likely to go. We have total 1065 questionnaires obtained from participating schools, and there was 636 (59,7%) 15-year old pupils and 388 (36,4%) 16-year old pupils. There was about 1,9% older (17 – 18 year, 20 pupils) and 1,6% younger pupils (14 year old, 17 pupils). Their questionnaires was included in the whole group too.

So it is more correct to consider that the target population of ROSE-project in Latvia are pupils going in the form 9.

8.   Sample and participation

Due the financial support both from RTTEMA and ROSE-project 1400 questionnaires have been made, 950 of them in Latvian and 450 in Russian. The agreement with schools principals interested in participating of ROSE-project has been made beforehand, and then they were sent to 40 different schools (fig.1) in the middle of March 2003, and 1216 questionnaires have been received during one month. After the technical analysis the questionnaires received from 38 schools[2] have been assessed as useful.

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[2] The questionnaires received from two schools are regarded as incomplete due to technical problems

9. Data collection in schools

There was not great problems to establish contact with schools separated for ROSE-invetsigation. We have a lot of our earliest students worked in all regions and districts of Latvia, ant therefore we have got a good responsibility from principals. We have sent a letter to mostly schools with exhaustive explanation about ROSE project as well as a instruction how the investigation must be carried out.

Within about one month we have received all questionnaires, and the ROSE_team Latvia began to sort and code questionnaires.

10.   Feedback and experiences

It has to be said that in general the attitude of school principals and teachers towards the research was positive. However, some cautions attitude was obsewrwed as well: school principals in some cases try to clude the questions and research directly connected with pupils' knowledge.

The attitude of the students was quite positive. The questionnaires were answered correct, except about 10 of them. In these cases students has misunderstood significance of the research. They have left some pages of the questionnaires empty or had chosen the same answer in whole page or more.

As a result of technical assesment 1065 questionnaires have been acknowledged to be useful. They have been coded according to the requirements of ROSE-guidelines and fed into computer (D.Legzdina, L.Lieldiens). This stage was finished in October 2003, and then the attention has been paid to the part I (Myself as scientist). The teacher students of 5th year were taking part in this evaluation and also in the short analysis of the basic material obtained from questionnaires.

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

All the Latvian questionnaires were coded by Janis GEDROVICS, Dace LEZDINA and partly by Lauris LIELDIENS. The coded questionnaires was inputed into the SPSS empty data files, and this part of research was finished October 2003. Questionnaires which had not taken seriously /according ROSE handbook/ or was not finished by respondents were excluded.

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Janis GEDROVICS