

Report on organizing the ROSE survey in Swaziland

F. Mavhunga, fmavhunga2001@yahoo.com, fmavhunga@uniswacc.uniswa.sz
University of Swaziland, July 2004

1. ROSE team

Contact person: Francis Z. Mavhunga.
Lecturer, Science Education, Faculty of Education.
University of Swaziland.

The Swaziland Rose survey was done by Francis Mavhunga with a lot of help from Victoria Kelly. We are both lecturers in Science education at the University of Swaziland. The principal participant, Francis Mavhunga has also conducted the Rose survey in Zimbabwe. Ms V. Kelly has assisted with logistic support and facilitating access to the schools through her work with the Ministry of Education of the Kingdom of Swaziland. The survey in Swaziland has been funded by Professor Svein Sjoberg through the Graduate Studies in science Mathematics and Technology Education Project (Grassmate) Project.

2. School system and science teaching

Swaziland has a 13-year school system between the ages of 7 and 18years. Primary school is Grades 1 to 7 and secondary school is from Form One to Form Five. From Form one to form three, education is compulsory.

Swaziland uses the Cambridge International Examinations from the University of Cambridge Local Examinations Syndicate. Schools make a selection of combinations of Physics and Chemistry (5124), Physics and Biology (5125), Biology and Chemistry (5126). A combined science syllabus (5129) is also selected in some schools. All these subjects do not have practical components in the examinations.

Private schools also offer the traditional Chemistry, Physics, Biology and Mathematics as separate subjects.

3. Translation

English is an official language and hence there was no need to translate the questionnaire into the local language. While this is the official position, the command of English in the schools is however not very strong. Thus there was need for explanation of several items. The science teachers in the various schools did most of the explanation.

4. National questions

Before the questionnaire was administered, a small sample was made in order to establish how long the children would take, answering the questionnaire. No further questions were added to the questionnaire. Details about the nature of the schools were however added to the front matter of the questionnaire. The distinction made was in the socio economic positioning of the school.

5. Piloting

The Rose questionnaire was considered as complete and was not piloted further in Swaziland for question consistence and validity. The only piloting was of ten questionnaires given to pupils of on school to establish generally how long pupils in Swaziland would take answering the questionnaire. This was meant to guide the data collection process as to how much time would be required of the selected classes.

6. Official permission

There was very good support for the Rose project from the National Chief Inspector of Science Education in the Ministry of Education. A general cover letter from the Inspectorate was adequate to get access to the schools that were selected. Personal contact with some teachers through other Science Teacher workshops was also important for enabling good cooperation with the school teachers.

7. Population

While the Rose questionnaire targeted 15 year olds, the same age was targeted in Swaziland. 15 year olds are generally in Form Three. However, there is low homogeneity of ages in Form Three pupils in Swaziland. In the sampled population, the ages varied between 14 and 21 and 15years was the modal age while the average is a little higher at 16.

Swaziland is a small country and children in the sampled schools represented the cross section of the political and geographic regions of the country. Boarding schools tend to have children from all parts of the country. There are no special schools for the disabled and hence the sampled schools have a mixture of all categories of children.

8. Sample and participation

Sampled schools represent the cross section of Swazi schools. 90% of schools in Swaziland are government funded and the rest are private, high-fee paying schools.

The sample was selected to reflect a cross section of the types of schools that are found in Swaziland. The quality of the schools depends on whether they are in the rural or urban parts of the country. This has direct bearing on the amount of money that the schools have available for infrastructure development and maintenance. Urban schools tend to be better equipped and constructed and naturally have higher enrollments.

Urban dwellers in Swaziland have rural homes as well. Thus urban schools generally have children coming from all parts of the country. The selected urban and rural schools reflect life experiences for Swazi children from the whole country. There is one high fee paying international school in the country and it has been included in the sample. The high fee paying schools reflect life experiences of children from high-income homes. Participants from two sampled high fee paying schools make up 8.9% of the total sample.

9. Data collection in schools

1000 copies of the questionnaire were copy printed by a local Nashua outlet. This was made possible by financial support from Prof Svein Sjoberg.

I traveled to all the selected schools and administered the questionnaires within the school science departments. Normally I was given the science teacher of the

chosen class to work with. I usually could not easily be accommodated in the school timetable and I left the actual administration of the questionnaire with the science teachers. A lot of explanation of what the questionnaire is about was needed always. Most schools were very enthusiastic about participating in the project.

Problems in many cases came when the teacher was not entirely confident with the many questions in the booklet. It made it doubtful if they would be able to help the pupils adequately if they needed any help.

10. Feedback and experiences

Pupils were generally keen to answer questions. In many schools, the selected classes felt rather special. At some schools, pupils wanted to know if this questionnaire was going to change their science lessons and make them better. The presence of someone from the University conducting a survey was exciting for the students who sometimes have very remote interaction with the university.

Teachers who administered the questionnaire to their classes felt they needed to see the analyses that are eventually made. 'We participate in many government and University questionnaires, but they never tell us what comes of the studies.' I feel the schools deserve a report back on some of the principal outcomes from subsequent analyses. For maintaining a positive research relation with the schools, it is important that a country report be made available to the different participating schools.

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

The coding outline laid out in the Rose Handbook was used. Item I was not well answered by many participants. A major problem in many cases was the command of English. Swazi participants found the articulation of ideas rather difficult. Item I Swaziland was coded by my son Kudzai (19). The questionnaire was double-checked to ensure consistency of the coding of statements and reasons indicated by the participants.

Often the statements in Item I attracted multiple answers. To maintain consistency in the coding, only the first submission made was considered. Where an answer was nonsense or incoherent this was considered as not having been answered, while noting that the failure to articulate the answer was either as a result of poor English language or weakly developed ideas.

Francis Mavhunga. August 2004.