

3. THE CARIBBEAN MATHEMATICS PROJECT 1971-1975

Background

The Caribbean Mathematics Project (CMP) was, as its name indicates, a curriculum development project, but one in which teacher development went hand in hand with the development of teaching and learning materials.

As a close observer of the project wrote, while the project was still in action: "In any curriculum development project, one looks for outcomes in at least two fields, namely, new teaching materials and new skills in the teachers. The former is the easier, and many projects understandably concentrate on it; the latter is the harder, and much the more significant in the long term. Ideally the two aspects can go together, and even be seen as two sides of the same coin. That is the philosophy espoused by the CMP, and to which its way of working is steadily approximating".

Aims

The project aimed to raise the quality of mathematical education at Junior Secondary level by producing new materials for classroom use by a process in which a paramount role was played by the teachers concerned. The production of materials was thus seen as a by-product of a strategy whose main purpose was to generate skills and confidence in the teachers themselves. This, it was hoped, would be the most enduring outcome of the project.

Needs and priorities

The overall need and priority was to develop a realistic and relevant curriculum for the new 3-year Junior Secondary schools of the Eastern Caribbean that had taken over from the old all-age elementary schools. A teacher-

centred developmental process, which was in effect, in-service training "on-the-job", had been identified as the first priority in the execution of this programme.

Resources

The main agencies involved were the eight Ministries of Education of the participating islands; the University School of Education; UNESCO; the British Ministry of Overseas Development; the Peace Corps and the Centre for Educational Development Overseas (now part of the British Council).

The teaching staff comprised one Project Co-ordinator (University School of Education); three full-time consultants (expatriate); and a number of local island co-ordinators. The consultants each had responsibility for certain islands but operated as a team and worked together on teachers' courses and workshops.

Modes and methods of training

In each island a number of "Project teachers" were nominated and in the early days of the Project they met with their consultant for one day each month, island by island. There were also longer in-service courses held in the school holidays with teachers coming from four different islands. In a later phase a pattern of "mini-workshops" was developed involving all the Project teachers in the preparation, trial and revision of teaching and learning materials. Each workshop lasted for a week and took place at one of the Project schools.

The procedure followed in these mini-workshops were generally as follows:

First, in a pre-workshop period, a small group of Project teachers, with their consultant, would work on a theme on which it was planned to develop a unit, drafting materials and carrying out initial classroom testing.

Second, the workshop proper with all the Project teachers (usually about 20) from the

island, would use these materials to prepare lessons which were taught to classes of children, discussed and amended as desired.

Third, immediately following on the full workshop, a small group of the teachers with the consultants would meet for a 3-day writing session. On the basis of the previous week's work the materials would be revised and supplemented and take the form of a Unit. This was followed by systematic school trials over a period of a few months.

Fourth, the consultant and teachers' writing-group would meet again to consider the feed back from the trials and make any necessary further amendments. This latest draft of the Unit might again be further tested.

Finally, the Unit material would be presented to a central editing workshop of all Project staff with Key Project teachers and College tutors. The material was then prepared for publication.

"Measurement of Area" can be regarded as a typical Unit. It consisted of:

- (a) A statement of 29 detailed objectives of the Unit, in terms of what pupils should be able to do as a result of working through the Unit.
- (b) An initial evaluation which consisted of a set of exercises on the theme of the Unit to assess the pupils' readiness to learn new concepts and to acquire new skills.
- (c) Remedial work to be carried out individually or in small groups before work on the Unit if necessary.
- (c) A set of 22 worksheets on the theme of the Unit involving a variety of practical exercises under the teacher's guidance.
- (d) A final evaluation to assess the extent to which the original objectives had been achieved.

(e) A teachers' guide in the form of a 110 page booklet in duplicated form, the main parts of which were:

- (i) Background notes for the teacher on the topic.
- (ii) A glossary of terms.
- (iii) Resource material for supplementary work.
- (iv) The objectives of the Unit.
- (v) Teachers' notes on the worksheets.
- (vi) Lesson notes in a uniform pattern, for each worksheet.
- (vii) Notes on preparation of apparatus, including assignment cards and charts.

Follow-up and evaluation

In 1973-1974 the Project involved about 9,000 pupils and their teachers. The main goal was to produce materials for the second year of the programme in which a mathematics "laboratory" approach was used in which teachers and pupils used cheap, locally available materials collected in a box. The "box" provided pupils with essential activities for building mathematical concepts in a way which was not possible with a textbook.

A mini-workshop in 1974 developed materials for a laboratory approach to the teaching of geometry.

A major concern was to maintain the balance between, on the one hand, keeping the responsibility on the teachers for deciding on and producing the teaching materials, and on the other ensuring that these materials were in all respects sound and suitable for the children with whom they were to be used.

Since the Project as such - and with it the external assistance - came to an end in 1975, it has been of the greatest importance to

ensure that the development process begun should continue under local direction. This has meant that even more responsibility has devolved on the teachers though probably on a national rather than a regional basis.

Special features

Several interesting features emerged:

- (a) the very close relationship between the process of curriculum development and that of "teacher development" - the latter being regarded as the more important long-term goal.
- (b) the fact that even untrained teachers had participated usefully in the mini-workshops as staff members of the project schools.
- (c) the close and effective working relationship between the various agencies involved.
- (d) the key role of the three full-time consultants with responsibility both for materials production and teacher involvement through the workshops.
- (e) the extended schools trials, by the teachers, of the draft units, leading to revision and further trials as necessary.

Reference

1. Caribbean Mathematics Project materials and reports - CMP, c/o University of the West Indies, Bridgetown, Barbados.