
Title	Curriculum development in Singapore with special reference to the revised primary syllabus
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Source	<i>Seminar on "The Role of Educational Materials in Singapore Schools" Singapore, 14 - 16 March 1973</i>
Organised by	Singapore Book Publishers Association

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SINGAPORE BOOK PUBLISHERS ASSOCIATION

Seminar on

“The Role of Educational Materials in Singapore Schools”

14-16 March 1973

CURRICULUM DEVELOPMENT IN SINGAPORE

WITH SPECIAL REFERENCE TO THE REVISED PRIMARY SYLLABUSES

by

Ruth H.K. Wong

The concept of the change

About the end of 1969 a seminar was held on the theme, “Whither the Sacred Cows of Education?” The purpose of the Seminar was to question certain entrenched beliefs about children and classroom teaching and to open a frank dialogue between Ministry officials and those labouring in the field on what they perceived to be urgent problems needing attention.

To the credit of the principals (of both primary and secondary schools), who were invited to participate in the Seminar, the discussions came round again and again to the concern they felt for the pupils in schools. Yet it was clear that the root causes of the problems of learning were not generally recognised as inherent in the approach to the curriculum and in its content.

The results and findings of this seminar were reported to the Minister. The latter felt that it was an opportune moment to set up an Advisory Committee on Curriculum Development, since the term of office of the former Committee on Curricula and Syllabuses was drawing to a close.

Were children mastering the linguistic skills so necessary to a multilingual society? Were they truly equipped with numerical skills and mathematical concepts which would enable them to contribute optimally to a rapidly industrialising economy? Did they receive insights, skills and attitudes that were relevant to an active understanding of their physical and biological environment to enable them to cope with technological progress and its consequences? These were important questions.

Accordingly the ACCD was set up with the issue of a Ministry of Education circular on its composition and its terms of reference.

On the terms of reference and the functions of the ACCD, I quote:

"The Committee's terms of reference are to advise the Minister, through senior officials of the General Education Department and the Technical Education Department, on all aspects of curriculum development and to supervise the implementation of such recommendations as may be approved by the Minister. Specifically, the Committee's functions will include the following:

- a) to identify the specific objectives of education in Singapore both national and academic;
- b) to be responsible for harmonising subject objectives with overall objectives;
- c) to ensure that objectives are not only reflected in the curriculum, but are attended to in practical terms;
- d) to re-examine the criteria by which subjects are selected for inclusion in or exclusion from the curriculum and the criteria by which time is allocated to the various subjects;
- e) to review the membership and functions of the various subject sub-committees and to coordinate their activities;
- f) to attend to controlled, trial implementation of the new curriculum with proper concomitant evaluation."

The composition of the new committee was drawn not only from officers at the Ministry but included representative members of the universities, the teacher's college, school principals and teachers.

Since its inauguration in 1970, the ACCD has met once each month. It deliberates on most matters having to do with the curriculum, besides supervising the course of curriculum development.

Planning and Strategy for Change

From the first, the ACCD set out to ascertain its own role in curriculum renovation and development. It perceived its most important functions as giving direction to the course of curriculum development and coordinating the work of its subject committees. Before setting up these committees, therefore, it concentrated on four tasks:

- a) analysis of the content of curriculum changes (social, cultural, national);
- b) analysis of needs (individual, society and the world);
- c) statement of objectives such as could be gleaned from policy papers and ministerial or parliamentary and professional speeches made from time to time;
- d) operationalizing the objectives.

The approach to these tasks was not research-oriented, that is, there was no exhaustive analysis made or representative sample data gathered. What was frequently reiterated through mass media

and speeches was considered worthy of attention. It was a first round; the approach was gross.

The objectives were found to be related to four categories of concern, the individual's, society's, nation's and the world's. It was decided to consider the curriculum development in two dimensions embracing these concerns – the horizontal dimension, representing widening circles of concern between the individual and his environments (in the broadest sense of the word and to include international aspects); the vertical dimension, dealing with aspects of learning (knowledge/learning to understand, skills/learning how to, and values and attitudes/learning to become).

It was decided then that curriculum development should commence from the first level of education upwards and that it would be a continuous series of specify-implement-evaluate-improve cycles. Continued evaluation and correction would embrace not only the content of the curriculum but also the objectives, the process whereby it would be worked out and the products of the process.

The next steps the ACCD took were indicative of the following objectives in strategy planning:

- a) to ensure qualitative production and implementation;
- b) to involve as many persons as possible in the task of development;
- c) to gain the cooperation of implementing in the classroom.

With these in mind, the members of the various standing committees set up were selected on the basis of recognised expertise rather than linguistic criteria, though care was taken that committees across the board did include some from different streams.

The standing committees were no longer chaired by Ministry personnel as was the case with the pre-1970 subject committees. Cooperation was considered more easily available if such an important project were not considered to be Ministry-dominated. This was a crucial part of the strategy, since curriculum development as it was then conceived was a new type of venture. The fact that it has developed to the extent it has is due entirely to the goodwill of the many involved at every level of the educational system. This has been the strength of the innovation, for the more there are of those involved, the greater is the understanding and awareness of what the new curriculum aims to do.

The ACCD was also quick to draw into collaborative effort other agencies already interested in curriculum development or were potential sources of supportive assistance. For example, at

the time when the Ministry's Standing Committee on Science was set up, the Science Teachers Association of Singapore (STAS) had already embarked upon curriculum development. To enhance the gains, the two committees were brought together and renamed MESTAS (Ministry of Education cum STAS Committee). Also the members of the Library Association were encouraged to assist with the development of library resources through the standing committee on Library Development and the help of ETV enlisted through the standing committee on Educational Technology.

Care was taken at every level of operation to explain rationale and objectives to persons involved. Each operation was preceded by a seminar/workshop. The first level operation involved standing committee chairmen and their members to whom the ACCD had to transmit its thoughts regarding purpose and objectives. A two-day workshop was called during which it was stressed that while subjects were represented by various committees there should be occasion for chairmen of different committees to discuss areas of overlap and integration; that knowledge would be more interesting to children if related and unified than when dispensed as little bits of information; that it was preferred if subjects could be viewed as part of four major curriculum areas within which integration could be effected. These areas of studies were:

- a) Language Arts, including the language skills and knowledge retrieved and application skills;
- b) Environmental Studies, including materials from the social, physical and environmental sciences;
- c) Aesthetic Studies, including art, craft, music, dance and movement and physical education;
- d) Social Education, including moral education (civics, religion), health education.

Finally, the various committees were exhorted to relate the overall objectives identified to their specific subject objectives as much as possible; these objectives were to be defined and analysed to the extent that they eventually permeated every lesson in the classroom; at which level, each objective would appear operationally in instructional and behavioural terms.

These emphases on involvement and explanation were consistently carried at each successive level of implementation.

In so far as principals and teachers were concerned, it was decided to allow flexibility of approach to those who were willing to exercise initiative in implementing the objectives of the innovation. Every encouragement would be offered to those who were able to give further creative interpretation to the new curriculum in terms of concept development and activity programming. Schools, where

principals and staff readily proceeded to accept the new "freedom", were designated "model" schools in the sense that the pattern of implementation activity was uniquely their own. There are a number of such schools which have served as innovation "nuclei" in that their principals and staff have assisted in spreading the new ideas through active participation in workshops and seminars arranged for their colleagues in other schools, through the sharing of teaching materials which they have produced and through allowing their classrooms to be visited by their fellow teachers who desire to see an open demonstration of the way the new curriculum works.

The Inspectorate staff also give advice and assistance when requested. They have been largely responsible for involving interested and gifted persons in the tasks of producing materials and writing experimental readers.

To reassure the insecure, guidelines are produced by the various standing subject committees. These carry suggestions on how and what learning activities may be organised to support the spirit of the new curriculum and are meant to accompany the syllabuses distributed.

Some difficulties in the development of the new curriculum

Such difficulties as have been encountered have not been altogether unexpected.

First, the task of expressing the content in terms of instructional and behavioural objectives is a taxing one. Yet, the purpose of the curriculum cannot be made clear except through thinking through these objectives and specifying them. So used is our system to the teaching of facts and to a quantitative measurement of curriculum content (viewed generally as material to be covered) that adjusting the sight to the curriculum as a set of meaningful activities which result in learning gains on the part of our pupils necessarily takes time. Such activities are based in the knowledge to be taught. They are not an end in themselves. Thus knowledge and activity cannot be treated as mutual exclusives. Also, learning gains imply more than more cognitive awareness and simple acceptance of facts; they must be seen in an improvement in cognitive skills and in attitudinal changes. The decision to consider curriculum development as a continuous series of specify-implement-evaluate-improve cycles is to cater, in one respect, to improvement in the specification of objectives in terms that are operationally sound and possible to implement.

Next, there is the difficulty of eliciting specific points of criticism from our "consumer clients", the practising teachers. The new syllabuses, unlike the old, are no longer restricted in circulation. Copies are available for any teacher who needs them. Each syllabus is issued with a remarks column on each page into which critical comments may be entered against each topic, objective or activity which may be found not suited to classroom implementation. So far, apart from very general comments which reveal that a given syllabus may not have been carefully read, specific criticisms have not been forthcoming. Such criticisms would be most welcome, as they will help the curriculum makers to improve what has been written.

A third difficulty has been the lack of supporting materials. The "model" schools have solved this most creatively by allowing their teachers to team together to develop lessons, programmes and materials. As each set of materials is proved useful, it is laid in store at the school's own resource "bank". They have assisted Ministry officials to run workshops and hold teaching apparatus displays.

A concomitant solution addressed to this difficulty is the preparation by a Ministry team (including three experts made available by CEDO) of special materials which may be used for the integrated teaching of language, mathematics and science. The project, commenced in January 1971, became known as the PPP (Primary Pilot Project) and still continues as a concomitant of curriculum development. "It emphasises those skills considered most essential for effective learning – language skills, number skills and self-learning skills. PPP children are required to TALK about things and DO things. The Project aims to develop special teaching strategies to improve oracy; it also seeks to provide a variety of interesting situations and activities that will stimulate the children's use of language. In other words, the project demonstrates more specifically the spirit of the new curriculum under controlled and guided situations.

The number of children involved in the PPP activities is gradual in order that the production of materials may not lag behind expansion. Table 1 gives the numbers involved in successive years.

Table 1

PPP Pupils (1971 - 1973)

Year	Primary I				Primary II				Primary III			
	E	C	M	Total	E	C	M	Total	E	C	M	Total
1971	560	-	20	580	-	-	-	-	-	-	-	-
1972	7,280	280	20	7,580	560	-	20	580	-	-	-	-
1973	10,120	280	-	10,400	7,280	280	20	7,580	560	-	20	580

E – English

C – Chinese

M – Malay

The "model" schools are exempted from participation in PPP to ensure some degree of acceptable variability in approach.

The difficulties described above will continue to move upwards as the new curriculum affects classes higher and higher up in the system. But both at primary level and later the secondary, practice will correct theory.

The primary school curriculum carries the following characteristics which are new to the system.

- a) It is structured for two-year time blocks; in other words, Primaries I and II work in school may be considered a single unit to permit non-graded grouping and teaching of pupils in these classes. Similarly for Primaries III and IV, Primaries V and VI. The ultimate objective is to enable each teacher to appreciate the fact that the curriculum is only good when it serves to meet the needs of individual pupils whose pace of growth is neither even nor uniform. As the full introduce-implement-evaluate-improve cycle comes round, the time-block will be gradually enlarged to embrace a three-year, and then finally, a six-year period so that from Primary I to Primary VI, all teachers will become more aware not only of the immediate objectives but also the end-point objectives. The first cycle of renovation of the primary curriculum will be completed in 1975; that at secondary level commences this year.
- b) The new curriculum permits flexible scheduling in school. Principals are at liberty to organise their school schedule according to their specific needs so long as the objectives

of the curriculum are borne in mind. They do not need to divide the days' time into arbitrary and limited modules of 20 minutes. The teachers are permitted to use the modules of time in integrated blocks which they can lengthen or shorten from day to day, depending on the development of specific topics as planned beforehand. Children need not stop in mid-track during an interesting lesson when the bell rings, as they used to under the old scheme of things.

- c) The new curriculum requires meaningful activities. For example, music and dance help in the study of language and number. Science is an experience in finding out about things.
- d) With every syllabus issued is a foreword which carries an assurance that method will not be prescribed. If the syllabus is carefully read, it will be seen that the activities are suggested for the teacher's benefit, but never prescribed. The examples given of possible activities reflect the eclectic approach of the various curriculum committees. Those who practise in the classroom are encouraged to select what is best suited to their pupils. Nowhere, for example, has it been suggested in the English language syllabus that phonics may not be used in the teaching of language.
- e) The new curriculum approach also aims at the integration of subject matter wherever possible. This makes for economy in the use of time and adds to the interest which derives from a knowledge of meaningful relationships between what may otherwise be isolated bits of information.

While many weaknesses remain to be corrected as needs must, when the attempt is to swing a full system into uniform action, there is no disturbing evidence to suggest that the new curriculum is carrying contrary effects.

The Ministry's declared policy on bilingualism is an important factor in the implementation of the new curriculum. Much more important than the specific minutes or portion of the curriculum time suggested for exposure to the second language is the objectives, namely, to afford learners in the classroom ample opportunity for language development to the extent that they acquire mastery at least of the first language and sufficient proficiency at the second language to enable certain vocational and social goals to be met.

The fulfilment of such an objective requires again what I have referred to as meaningful activities, not rote-repetition. It is here

that a great deal remains to be done in demonstrating teaching methods and in the supply of teaching materials.

The task of curriculum development and implementation is an important one. Publishers and textbook writers can help by producing materials which can lend creative interpretation to the curriculum.