

From design to implementation

The Régime Pédagogique of Quebec is discussed as a whole elsewhere in this issue (McCall's article), and its implications are there assessed on the global scale of a whole society. This article describes its application on the scale of particular classrooms, in a new geography course in secondary school. Smithman and Maddock show how a lengthy pilot trial and the involvement of teachers from its inception (not all of them geography teachers) was necessary to make the practical implementation of this new curriculum, to ensure mastery of the subject, not only feasible but really rather rewarding to all concerned.

Since 1960, educational reform in Quebec has proceeded with great haste and rigour. Legislation and regulations like the Charter of 1961, the Parent Report, Regulation I, and Bill 27 have had profound consequences on the schools of Quebec. With a few minor exceptions, these changes were in the form of administrative remodeling and were not aimed specifically at curriculum reform. For example, the Government created the Ministry of Education, introduced free schooling, made the provision of secondary education obligatory for school boards, and gave birth to the concept of school committees and parent committees. Although administrative reorganization may be the first priority, real impact on learners comes only when there is a change in curriculum and instruction.

Until the latter part of the fifties, curriculum was provided by the Ministry in a finely detailed form. However, in 1959, programmes began to appear with fewer specifications, organized with global aims, vague references to methodology, and no precise reference to content.

This treatment of curriculum and instruction according to some observers led to a decade of wandering in the wilderness, a period of laissez-faire, and in many instances, chaos. Although the intentions of the Ministry to decentralize curriculum, to meet local needs, and to encourage school boards to develop programmes were commendable, the theoretical paradigm never materialized. Criticism of this approach to curriculum emanated not only from parents, but also from professionals, teachers, and administrators alike who felt a certain uneasiness with the strategy. The apparent lack of definitive direction in the Ministry's programmes created difficulties also in evaluation of student progress, in delivery systems, and in curriculum. More pressure on the educational system was produced by the movement in the United States and Canada called "Back to Basics". Within this context the scene was set for a new look at Quebec's schools. A major reform was thought to be required but with a difference; the emphasis was now to be on curriculum, instruction, and evaluation.

This paper focuses on the curriculum changes prescribed in the Plan of Action. We do not pretend to provide a critical appraisal of the merits of the Plan of Action, its emphasis on behavioral objectives, or the Mastery Learning strategy. Instead, as practitioners we have engaged the question of their efficacy, through a series of field projects. The preliminary report of one such project is given here.

The Green Paper

Recognising that the reform in administrative organization resulted in few changes at the level of the learner, the Ministry of Education in the mid 1970's began to be more attentive to what was happening in the schools, particularly to the teaching-learning process. A committee was constituted to review the structures of the period and to recommend a policy for the future of education in Quebec, a policy that would render justice to all students. In this case the operative word was "all", that is, to the rich, the poor, the gifted, those with learning difficulties, and the handicapped. Although the task was enormous, the members of the committee made their final report in 1978, after a three or four year study and the traumatic experience of a change in government.

Borrowing the nomenclature from the British parliamentary system, the government issued a proposal aptly called the Green Paper. This document was to form the basis for a massive consultation that took place with every segment of society. For approximately one year the Minister of Education and his subordinates travelled to every corner of the province consulting with as many citizens as possible. From the beginning it was quite evident that the majority of parents supported the new concepts outlined in the Green Paper. Teachers, administrators, and some school commissioners,

however, were not quite so enthusiastic; these latter groups saw a further erosion of prerogatives and responsibilities that they had held for generations.

The Green Paper proposal was, apparently, a radical departure from the traditional Quebec educational situation in which the local school board and the individual school staff had had a great deal of autonomy relative to curriculum. Viewed historically, however, the Green Paper represents a return to the centralist prescription evident prior to the sixties. This trend is not limited to Quebec but is prevalent to some degree all across Canada (Hughes, 1980). In Quebec it has been decreed apparently that the central authority is not only going to change school programmes, but also to make it mandatory that all children achieve specific objectives in specific disciplines. Furthermore, periodic evaluation, reporting, and to some degree, instructional methods are to be legislated.

The Schools of Quebec

As a result of consultation on the contents of a Green Paper the Government of Quebec responded in 1978 to the wishes of the populace by issuing a document titled *The Schools of Quebec: Policy Statement and Plan of Action*. The policy paper was, without doubt, an honest attempt to answer the questions and concerns of the public.

An underlying assumption of the Plan of Action is that all students have the right to achieve a basic level of education as determined by the government. In order to reach this goal, new programmes are being written with objectives that, it is assumed, are attainable by the vast majority of young people. For those students who complete a programme successfully in a time frame shorter than that expected, extension activities and/or more challenging courses are offered. Students who have difficulty are provided with remediation using different learning opportunities which go under the name of "correctives." To accomplish the correctives in an already busy teacher timetable such strategies as peer teaching, remediation classes after school, programmed learning, and summer schools are recommended.

Not stated, but certainly implied in the Plan of Action, is a strategy called "Mastery Learning." The technique is one developed by Bloom and popularized by James Block (1971). In this strategy the operational objectives are defined very specifically, criterion test items are developed to measure the objectives, and a series of learning opportunities and correctives are established to assist the learner in achieving the objectives. The basic assumption of "Mastery Learning" is that most or nearly all learners can achieve at a high level of performance given sufficient time and excellent instruction.

Block's research appears to provide substantial evidence that the spread of achievement can be reduced considerably by implementing Mastery Learning. Specifically, the spread is diminished by fifty percent if the learners have achieved all the entry behaviours necessary for a new sequence of learning. Furthermore, the spread is decreased another twenty percent as a result of effective instruction and ten percent more if the students begin a course with positive attitudes. It is not beyond teachers' expectations, therefore, to see at least eighty percent of their students eventually achieve a satisfactory level of performance on a set of educational objectives. Variance in pupil abilities would still be respected, however, in the time taken to reach mastery of a certain skill, and the amount of enrichment and learning each pupil is able to acquire beyond the minimum competencies.

Design to practice - one experience

Lack of information about the Plan of Action and implementation procedures, as well as the much-delayed publication of the revised programmes, has caused anxiety among teachers. This has occurred despite the fact that teachers played a major role in the revision committees, and that hundreds of practising teachers were consulted and asked to evaluate various draft versions. Questions were asked such as these: Will the new course objectives prove to be "straitjackets"? Will the objectives be too many for the proposed allotment of time? Will there be time for teachers to add some extra objectives of their own choosing? Will the reporting system have to be changed? Will teachers reject the new courses? Where will the required materials come from? How will funding be found in shrinking budgets?

In an effort to explore these questions and investigate the practicality of one of the Ministry's new curricula, the Lakeshore School Board conducted a pilot study in Mastery Learning at the Secondary I (Grade VII) level with the blessing of the teachers and administrators concerned. The general geography course was selected for the trial experience because there was much dissatisfaction with the old course and growing impatience with delays in the approval of the new course.

Although the major aims of the project were to answer the many questions raised by teachers, and to evaluate pupil performance on the new M.E.Q. programme, the issue of curriculum alignment was also of utmost importance. When a curriculum is composed of objectives, instruction, and evaluation, all three must be aligned to secure effective schooling (Niedermeyer and Yelon, 1981). We were interested, therefore, in knowing whether the designers of the new programmes had been cognizant of this need.

Certain implications had to be accepted before implementing the pilot study: for example, the objectives were not approved and might have to be altered, revisions might be made during the experimental phase (this did happen), and final approval was not to be expected before the conclusion of the second year of trials. Furthermore, the teachers at Secondary I were not specialists in geography and required extensive inservice training in geography skills and content. Also, no suitable core text books were available from the point of view of objectives or readability. Finally, since over half the pupils took the course in the French language, there was a need to develop parallel materials in English and French at an equivalent level of difficulty.

After the administrators approved the project in the spring of 1979, four teachers worked in the summer to develop materials for the first two of the five modules into which the course was divided. The composition of the team was not deliberately planned, but it had much to recommend itself. One teacher was a specialist in reading and study skills, another was a special education teacher familiar with the needs of pupils with learning problems, and the other two were experienced and successful teachers at the Secondary I level who understood the needs of this group. Since none had any special training in geography this component was supplied by the curriculum consultant. It proved a happy and productive mixture inasmuch as each of the important parts - the subject content, the language and learning skills, the students, and the teachers - had an experienced advocate.

Because of their school responsibilities the teachers could not find time to play a major role in writing the three remaining modules, but they did check the drafts and suggest changes. These modules followed the pattern developed for the first two. However, in retrospect, the solution was not ideal, and means will have to be found to release teachers for curriculum development work without paying \$70 or more per day for substitute teachers.

A dozen teachers volunteered to use the materials in their classrooms in 1979-80. These volunteers were given a minimum of training by the consultant in geography before using the modules with their pupils. The experience, nevertheless, was quite successful, since the pilot teachers gave invaluable assistance to the authors of the modules by identifying major weaknesses and areas needing improvement. As a result of these field trials, one of the teachers who used the programme and the geography consultant revised and expanded the materials based on the suggestions they had received.

As a result of their efforts two modules were completed by the conclusion of the summer recess and three more in the autumn. Each of these modules contained a fifty-page pupil workbook with the objectives, pertinent information, and criterion items. For teacher use there were formative and summative tests, correctives, extension

activities, film strips, a teacher's guide, and a report form.

New programmes, new instructional methods, and new administrative structures are not guarantees for effective change at the classroom level. To bring about real change, school personnel - teachers, administrators and consultant - have to take ownership. Such a commitment, however, requires that staff are well informed and well trained in the contemplated changes. In the case of geography, administrators in the schools arranged for the teachers of general geography to meet with the consultant at the beginning of each module. During these sessions, usually after school or during non-teaching periods, materials was presented and feedback on previous modules were solicited from the staff. This was a most formidable undertaking, since the decision in September 1980 was to implement the new programme in all Secondary I classes, both French and English, served by the Board.

By the end of December, 1980, answers to many of the questions that were posed earlier in the study began to appear. Following an oral exchange of views, teachers and pupils completed a questionnaire, and although no claim is being made as to the scientific nature of the questions, some very clear and exciting data were obtained. Eighty-six percent of the teachers appreciated being given precise objectives by the Ministry of Education, and a similar percentage believed that objectives help pupils to know better what it is they are expected to accomplish; eighty-seven percent of the pupils perceived the same statement to be true. All agreed that the course was too extensive, but that such a deficiency might be overcome in another year when teachers become more familiar with the materials. Relative to the question on the rigidity of a centralized curriculum, most teachers felt they had ample opportunity to be creative not only in programme delivery but also in defining new objectives. It was concluded, therefore, that teachers and pupils were in favour of the notion of Mastery Learning and in fact recommended that similar programmes be developed in other disciplines.

One of our most gratifying findings was that we had achieved curriculum alignment. The learning opportunities and the test items appeared to be in perfect alignment with the objectives. Credit for such an accomplishment has to be given to the teachers and the consultant who piloted the project through its many phases. Correlation of curriculum, instruction, and evaluation is not a new concept, but one in which curriculum developers have not always been attentive. Now that the rules are about to change (that is, objectives will be defined explicitly) teachers will have to strive for alignment in so that their pupils may achieve the basic competencies.

Conclusion

It seems reasonable to expect that most teachers and students will appreciate being given specific objectives for core programmes. As more and more courses are completed and mastered by most pupils, in other words as pupils come to new courses with most of the prerequisite knowledge and skills (and probably with positive attitudes too), the instructional process will be more efficient and more productive.

However, if the revised programmes are to have a fair chance, a means has to be found for providing the inservice training, the curriculum development, and the instructional materials required to give the programmes that chance. One has the impression that, having gone through a long laborious gestation period, the authorities may not have the financial resources to support the successful implementation of new curriculum. Support materials, programme guides and text books appear to be items that will not be available for a number of years. One glimmer of hope, however, is that the regional bureaus are organizing personnel from the boards to act as animateurs or "multiplicateurs", to assist teachers at the classroom level with implementation. Furthermore, the dedicated group of professionals in the school systems, using their usual ingenuity and knowledge, will find means to overcome these bureaucratic deficiencies.

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