



The Evaluation Experience of Primary and Secondary Education Projects in Kenya

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Abstract

This article describes the evaluation of two curriculum development projects in Kenya: the Primary Education Project (PEP) and the Secondary Education Project (SEP). It gives a brief history of the two projects, and describes the evaluation strategies and methods used during the development and implementation of the curriculum.

This article is based on studies conducted from 1981 to the early 1990s by this writer, and his colleagues at KIE, together with external evaluators.

Introduction

This article is based on evaluation studies conducted by this writer, the Research and Evaluation Section of the Kenya Institute of Education (KIE) and external evaluators. The exercise of developing primary and secondary education curricula was systematically monitored and evaluated by three agencies of the Ministry of Education, namely Inspectorate Department, KIE, and the Kenya National Examinations Council. Designing a comprehensive evaluation programme for PEP and SEP was a great challenge. This writer presents concisely the evaluation activities that were undertaken.

This article describes the process of evaluating the projects in Kenya. It presents the following:

- a) a brief history of the primary and secondary education projects
- b) a description of the successive stages of the project evaluation
- c) highlights of the results
- d) impact of the evaluation on decision making
- e) strengths and weaknesses of the evaluation
- f) lessons learnt

The data on evaluation procedures was obtained from analysis of reports on curriculum development workshops and orientation workshops, records of subject and course panel meetings, as well as reports of evaluation studies undertaken by the team that conducted the research.

Various scholars define evaluation differently. This article adopts Marvin C Alkin's definition:

Evaluation is the process of ascertaining the decisions to be made, selecting

related information, and collecting and analyzing information in order to report summary data useful to decision makers in selecting among alternatives.

The definition implies that evaluation is a management tool.

The purpose of evaluation is to improve decision-making. Conducting evaluation and producing reports is not an end in its own right. It is when the findings are presented to decision makers, discussed and acted upon that it fulfils its function. It is in the context of the curriculum development project that evaluation fulfils its functions when policy makers within the Ministry of Education understand the findings of the evaluation and their implications for other projects, activities and programmes when changes are actually made in the light of the recommendations of the evaluation. Evaluation is an ongoing management and planning activity.

A Brief History of Primary and Secondary Education Projects

Since independence in 1963, various efforts have been made to improve quantitatively and qualitatively all levels of formal schooling in Kenya. This is evidenced by the quantitative expansion of educational facilities to make primary education more readily available to all children of school going age, the establishment of more secondary schools, and the revision of the curriculum. Within the first week of independence, the Kenya Government set up an education commission under the chairmanship of Professor Simeon Ominde to look into all aspects of education in Kenya.

With regard to primary and secondary education, the recommendations of the commission included the following:

- Integration of racially separate schools
- *Curriculum should be reformed to make it relevant to the post-colonial situation*
- *A 7-4-2-3 system of education should be established*
- *Kiswahili should be compulsory in all schools*
- *English should be a medium of instruction in primary schools*
- *To achieve national integration, each boarding school should allocate at least 20% of its places to students from outside its region. (Republic of Kenya, 1994)*

These recommendations led to radical changes in curricula for primary and secondary schools.

However, by 1975 it became increasingly clear that formal education did not cater sufficiently for the majority of school children who did not proceed to the next level. Rather, it catered more for the minority who managed to

continue with further education. It also tended to concentrate on imparting knowledge for the sake of passing examinations. It was for these reasons that the Kenya Government set up the National Committee on Education Objectives and Policies (NCEOP) in 1975 to review educational objectives and policies. The committee recommended that:

1. The quality, content and relevance of primary education be improved so that it caters equally for the majority of children for whom primary education is terminal.
2. The seven-year primary education should be made available to all school-age children.
3. The curriculum should develop a sense of ethical values and social obligations by reasserting the values and obligations of traditional African society in a national context.
4. The demarcation between secondary academic and secondary technical schools should be removed.
5. Secondary education should be made increasingly scientific, pre-vocational craft oriented.
6. A secondary education that is predominantly terminal be offered.
7. Primary education and secondary education be broad-based leading to competence in a variety of development tasks. In particular, agricultural sciences should occupy a central position.
8. The duration of basic education should be extended from seven to nine years so as to produce mature individuals who are better prepared for gainful employment particularly within the rural areas. (Republic of Kenya, 1976).

As a direct consequence of the committee's recommendations, the Government decided to undertake far-reaching changes in Kenya's primary and secondary education. The most important of these changes was the development of reformed curricula and curriculum materials.

To undertake the above task, PEP was established at KIE in 1978. In 1984 SEP was established. While the curriculum for primary schools was still under development, the President in January 1981 appointed a Presidential Working Party on the Establishment of a Second University in Kenya. The Working Party completed its work in September of the same year. Its recommendations were as follows:

1. The "A" level segment of secondary education should be scrapped altogether.
2. *The 7-4-2-3 system of education be replaced by an 8-4-4 system of education i.e. 8 years of primary education, 4 years of secondary education and 4 years of minimum university education. The first year of university education should be spent on foundation courses* (Republic of Kenya, 1981).

The education system was restructured accordingly in 1985 (KIE 1984).

Development of Primary and Secondary Education Curricula

This was undertaken by KIE. Steering committees for primary and secondary education were established to provide, among other things, guidelines for subject panels on the design, development, implementation and evaluation of the curriculum. Curriculum development teams, consisting of practicing teachers, university lecturers, inspectors of schools, lecturers from teacher colleges, examination secretaries, and representatives of the Kenya National Union of Teachers, were set up. However, it was later argued by some people that the views of the teachers who participated in the development of the curriculum and curriculum materials were not representative of the views of other primary and secondary school teachers. The former had been selected because they had been deemed better than the latter in their respective subjects. Although there was extensive consultation between KIE and teachers during the exercise, no needs assessment surveys among students and the general public were carried out before the development of new material.

The putting on trial of the new curriculum and curriculum materials in 49 primary schools throughout the country started in 1981. In 1986 the new materials were implemented. The primary school curriculum consisted of the following subjects:

1. Kiswahili
2. Two. ethnic languages
3. English
4. Mathematics
5. Science
6. Agriculture
7. Business Education
8. Religious Education
9. Art Education
10. Home Science
11. Craft Education
12. Music
13. Physical Education
14. Geography, History and Civics (GHC)

The development of the curriculum for secondary schools started in 1984. Complete course materials were developed by teams of writers including secondary school teachers, inspectors of schools, university lecturers, and curriculum developers. The writers were brought together for between two to four weeks. There was no co-ordination between primary and secondary

levels, and between different subjects in the secondary school curriculum. Furthermore, syllabuses and other material were not tested before implementation nationally.

The curriculum structure is as follows:

1. English
2. Kiswahili
3. Foreign Languages
4. Mathematics
5. Physical Sciences/Physics, Chemistry
6. Biological Sciences, Biology
7. History and Government
8. Geography
9. Religious Education
10. Social Education and Ethics
11. Agriculture
12. Industrial Education
13. Business Education
14. Home Science
15. Art and Design
16. Music
17. Physical Education

Evaluation Plan

A major concern during the planning period was devising a rigorous and credible scheme of evaluating the strategies, activities, and effects of the two projects. A decision was made to strengthen the Research and Evaluation Section of KIE so that it could effectively carry out formative evaluations. Plans were also put in place to conduct summative evaluations at the end of the projects.

Implementation of Curricula in Schools

In 1986, the new primary school curriculum was implemented in all primary schools (Standard 1 to 8) and primary school teacher colleges after appropriate revision of all syllabuses and other material. The decision to implement it was based on the findings of a summative evaluation study conducted by internal evaluators.

The curriculum for secondary schools was implemented gradually as follows:

1986	-	Form 1
1987	-	Form 2

1988 - Form 3

1989 - Form 4

The implementation of primary and secondary education curricula called for the training of teachers to orient them to the new system, and also to keep them abreast of new approaches and changes. The Ministry of Education conducted various in-service courses for teachers in 1986 and 1987, many of whom found them useful. However, due to inadequate funds, it was not possible to run the courses regularly. Consequently, there was a big gap between the planned curriculum and the curriculum as translated and taught by teachers. This is because teachers were required to implement a curriculum most of them did not understand.

Although inspectors of schools demonstrated commitment to curriculum reform, most of them were ineffective in giving teachers the required guidance. This was mainly because they themselves had not been trained adequately. In addition, some of the key decision makers used authoritarian methods to secure support for the reformed curriculum instead of engaging in meaningful dialogue with teachers and other educators.

Evaluation of Primary and Secondary Education Projects

The importance of evaluation of any education programme has long been recognised. Evaluation studies provide a climate for systematic programming. At various stages of curriculum development, necessary studies are undertaken to give directions to the project, assist in building up the conceptual framework for curriculum material development, and to measure effectiveness.

The Research and Evaluation Section at KIE ensured the continuous improvement of curriculum material through the undertaking of research and evaluation activities, and developing evaluation design and instruments.

Monitoring and Evaluating Project Activities

Evaluation was an ongoing process from the beginning of the curriculum reform. Formative evaluation studies were undertaken with four broad purposes in mind:

1. To provide feedback to curriculum developers on the quality of the curriculum.
2. To provide curriculum developers with information to assist them in the planning of the implementation of the curriculum nation-wide.
3. To document the status of the curriculum in schools in order to facilitate ongoing revision of curriculum material.

4. To provide timely information to facilitate decision making within the Ministry of Education.

The Research and Evaluation Section conducted formative evaluation with the assistance of curriculum developers and inspectors of schools. Summative evaluations were conducted by external evaluations. Curriculum developers and inspectors did not participate directly in the evaluation; rather, they acted as resource persons to the external evaluators.

Formative evaluation was carried out in three phases. Phase one started immediately after the launching of the two projects and consisted of the following activities (a) evaluation of curriculum designs and syllabus (b) evaluation of textbooks and other curriculum materials, (c) evaluation orientation workshops (d) evaluation of the implementation of curriculum materials in pilot primary schools.

The sample for evaluation of the implementation of the curriculum consisted of 49 pilot primary schools, 49 control primary schools, and 134 secondary schools. The subjects were head teachers, teachers, pupils, parents and community leaders. Data was collected by means of questionnaires, interview guides, observation schedules, and achievement test results. Formative evaluation phase two was carried out after the implementation of curriculum materials in primary and secondary schools. During formative evaluation phase one, teachers and head teachers had complained that the curriculum was too broad to be implemented within the available time. Phase two was carried out by curriculum developers and inspectors of schools in order to resolve scope and sequence issues.

The sample consisted of primary schools and secondary schools. The subjects were head teachers, teachers, parents, field educational personnel, and community leaders. Data was collected by means of questionnaires, interview schedules, observation schedules, and focus group discussions. The findings of the evaluation pointed to the need to revise curricula for primary and secondary education to make them manageable.

Two types of summative evaluation were carried out: internal summative evaluation and external summative evaluation. The former was carried out by the staff of the Research and Evaluation Section of KIE, the Ministry of Education, the Inspectorate, and Kenya National Examinations Council. The main objective of the evaluation was to assess the effectiveness and efficiency of the primary education project curriculum material. The study used a post-test only control group design. The sample consisted of 49 pilot primary schools. Data was collected by means of achievement tests results; questionnaires for head teachers, teachers, pupils, and parents; and interview guides for head teachers, parents and community members. Observation instruments and document analysis guides were analysed using frequencies percentages and mean scores. As a result of the findings of the

study draft curriculum, materials were revised.

Evaluation studies involved relatively large samples of students, teachers, parents and community members. In every study, a variety of questionnaires were developed and administered to these groups. Comments were also sought from head teachers, field education personnel and teacher educators. The other instruments used were achievement tests results, interview guides, observation schedules and document analysis guides.

Site visits were undertaken by members of staff of KIE and the Inspectorate Department of the Ministry of Education. These included inspection of physical facilities and monitoring of lessons, and discussions with head teachers and teachers. Each of the school visits was complemented by discussions with parents, community leaders and educational professionals. Summative evaluations were conducted by external evaluators. In selecting external evaluators, two major criteria were adopted: first, they had to be experienced professionals with sophisticated research and evaluation skills. Second, they had to be conversant with the school curriculum.

Highlights of Results

This section presents the main findings of the evaluation studies on primary and secondary education projects.

Primary Education Project (PEP)

PEP was evaluated five times - in 1982, 1984, 1987, 1990 and 1995. The first three focused on the implementation of curriculum materials in pilot schools. The evaluations showed that (1) the project had achieved most of its objectives, (2) the curriculum was relevant to the needs of the learners and society, (3) in-service orientation courses had a positive impact on teachers, (4) teachers endorsed the curriculum (5) pupils in pilot schools performed better in achievement tests than pupils in control schools. The 1990 formative evaluation by the Research and Evaluation Division showed that the curriculum was too broad and recommended the reduction of its content. (Ogula, et al 1990). In 1991 several changes were effected in the primary school curriculum. The 1994 evaluation was conducted by external evaluators: Although the primary school curriculum had been revised in 1991, they still found it too broad (Achola Nyagah, Shinundu & Maundu, 1995):

- The curriculum of primary schools had not been effectively implemented due to lack of teaching-learning resources
- There were too many subjects in the primary school curriculum
- Practical skills subjects, namely music, art and craft, agriculture, home

science and business education were not taught effectively in many schools because of lack of materials and equipment, and qualified teachers

- Mother tongue languages were not taught in most schools. In addition, the policy of using a local indigenous language as the medium of instruction in lower primary classes had been ignored in many primary schools
- Most primary schools lacked adequate facilities such as workshops and special rooms for practical subjects and instructional materials such as textbooks, exercise books apparatus and tools
- The objectives of primary education were too ambitious and unrealistic
- Teachers complained of too much content in the primary school curriculum in all subjects. They wished to see the number of subjects retained, but recommended that the content in each be reduced.

Secondary Education Project (SEP)

The Secondary Education Project was evaluated five times in 1984-85, 1986-87, 1988-89, 1990, and 1993-95. The evaluation was divided into three phases which took place over a 15-year period: (a) evaluation of curriculum material (1984-1985), (b) formative evaluation of the implementation of curriculum materials in schools (1986-1990), and (c) summative evaluation of the school curriculum (1993-94).

During the development of curriculum material, subject panels and evaluation teams conducted evaluation. Senior staff at all levels subscribed to the use of evaluation as a management tool to improve project management. The obvious good will towards evaluation was the fruit of the sensitisation efforts made by the Research and Evaluation Section. There existed senior staff within the Ministry of Education who were adequately conversant with the techniques of evaluation. These included Permanent Secretaries and Directors of Education, Chief Inspectors of schools, Directors of KIE, Secretary to the Kenya National Examination Council, Kenya National Commission for UNESCO, and Director of Kenya Education Staff Institute.

Parents and community leaders supported the broad-based curriculum. However, they were concerned with the fact that it was overloaded.

- The secondary school curriculum has been generally accepted nationwide
- There is a lack of adequate teachers in several subjects including mathematics, physics, chemistry, music, business education, drawing and design, English language, and applied subjects

- Many schools lack adequate facilities, such as laboratories and workshops for practical subjects, and libraries
- Most schools lack consumable items such as chemicals, wood, clothing materials, and equipment for science and other practical subjects
- Most teachers are not able to teach integrated English

On the basis of the finding of the studies reviewed, the following recommendations were made:

- That the current number of subjects offered at the primary school level be retained but the content in each be reduced.
- That the number of compulsory subjects at secondary school level be reduced from 10 to 8.
- That the government provide basic instructional material including textbooks, simple tools and science equipment to every public school.
- That continuous assessment marks be incorporated into students' final examination scores.
- That efforts be made to intensify the training of teachers of practical skills subjects.
- That specialist teachers be made to teach practical skills subjects in primary schools.
- That examinations be de-emphasised.

Impact of Evaluation On Decision Making

In the Primary and Secondary Education Projects in Kenya, evaluation had some impact on decision making. Specific examples of use of evaluation in decision making are:

1. Based on the findings of formative evaluation, a decision was made to drop or change the idea of teaching creative activities (Arts, Physical Education, Music, and Craft) as one subject or in an integrated manner.
2. During the trial-testing of curriculum materials, it was realized that pupils in lower primary classes needed pupil's books in science and social studies. These were consequently developed.
3. Curriculum developers used the evaluation results in revising curricula and materials.
4. In-service courses were conducted to raise teachers' knowledge in the subjects they taught and effective teaching methods.
5. In 1991, problems were addressed as follows:

Primary Education

- The primary school curriculum was reviewed and made manageable
- The government intensified the provision of instructional materials to schools in arid and semi-arid lands (ASAL) and other pockets of poverty in the country.

Secondary Education

- The minimum number of subjects taken by students was reduced from 10 to 8
- Syllabuses were reviewed and unnecessary topics removed
- Efforts were made to establish laboratories in secondary schools.

Strengths and Weaknesses of the Evaluation

Strengths

1. The use of internal evaluators who had easy access to decision-makers of the time.
2. The involvement of curriculum developers and inspectors of schools, subject teachers and teacher educators in the evaluation exercise. These were the same people that were involved in the development of the curriculum and materials.
3. Collaboration between research officers, curriculum developers, inspectors of schools, and field education personnel greatly strengthened the evaluation.
4. Evaluation of Primary and Secondary Education Projects demonstrated that the Research and Evaluation Division of KIE can play a major role in conducting and coordinating education evaluation in Kenya. Rather than hiring foreigners to evaluate curriculum development projects, KIE should be strengthened and encouraged to do the same.
5. The existence of a close-working relationship between policy makers and evaluators led to effective use of findings.

Weaknesses

1. The Research and Evaluation Division was understaffed at the time. Consequently, it relied upon expertise from other divisions. Since the bulk of the efforts of the curriculum developers was taken up by the development of textbooks, they did not have adequate time to engage in evaluation.

2. Lack of institutional machinery to ensure those in charge of education decision making at any given time implement evaluation findings.
3. The presence of weak decision makers in the Ministry of Education resulted in delayed decisions or actions.
4. Most of the evaluation depended on external funding.
5. The terms and conditions of service of evaluation officers at KIE are such that it is difficult to attract and retain qualified evaluators
6. The curriculum specialists, inspectors of schools and teachers were inadequate as evaluators.

Lessons Learnt

Firstly, evaluation offered developers an opportunity to re-examine the school curriculum with a view to finding ways and means of making improvements to it.

There is an important lesson for the rest of Africa to learn from the Kenyan experience: that there is a need to systematically evaluate the school curriculum with a view to improving it. It helps establish a project's credibility with financiers and implementers. Secondly, hard data is much more persuasive than anecdotal claims. The Ministry of Education reacted positively to the evaluation. Thirdly, the Kenyan experience has shown that there are benefits to having external evaluators, this being increased credibility in the eyes of teachers and funding agencies.

Although evaluation is an essential component in curriculum development projects, there is a feeling among developers, policy makers and teachers that evaluators are merely interested in checking on their mistakes. The effectiveness of evaluation is dependent on political backing of institutions involved. Another lesson learned is that without the sufficient support of policy makers for the evaluation and their willingness to use findings, the exercise may be a little more than an academic undertaking.

Attitudes to Change

Without exception, the evaluations revealed a marked unwillingness by curriculum developers and teachers to reduce subject content. This was particularly so at the secondary level. There was obvious desire to maintain the status quo. The lesson from this is that, unless there is pressure from policy makers for change in curricula, developers are unlikely to make significant revisions in existing curricula and assessment arrangements.

Piloting

The primary education project was able to minimise problems in the curriculum due to several years piloting curriculum materials.

Pit Falls

Overly Ambitious Goals

Primary and secondary education projects were too ambitious in their goals. This made it difficult for curricula to be effectively implemented in schools.

Failure to Conduct a Needs Assessment Survey

While it sometimes is necessary to develop curriculum material without first conducting a needs assessment survey, this can make it difficult for curriculum specialists to design a relevant curriculum.

The Absence of Control Groups

Since the secondary school curriculum was implemented in all schools at the same time, it was difficult for evaluators to employ an experimental or quasi-experimental design. Having no control group limited the determination of the effectiveness of the project. In part, this lack of control groups derived from the failure of the steering SEP team to devise a strategy for piloting curriculum materials in selected secondary schools.

Conclusion

This article has attempted to explore the role of evaluation in the curriculum development process. It has suggested that evaluation of primary and secondary education projects in Kenya during the 1981 and 1996 period can be divided into two main phases: the formative evaluation phase (1981-1991) and the summative evaluation phase (1994 onwards).

During the first phase, curriculum materials were developed and implemented in schools. Formative evaluation was concerned with making sure that the curriculum was appropriate and relevant to the needs of the learners and society. The final phase (1994 onwards) was characterised by attempts to find out the effects on the curriculum on students. Looking back, it is evident that the evaluation experience made the Ministry of Education cognisant of the role of evaluation in curriculum development and implementation processes. Its contribution is now recognised and appreciated by curriculum specialist and policy makers.

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