SEQUENTIAL STEPS IN CURRICULUM DESIGN AND IMPLEMENTATION PROCESSES

Dr. Mohammed Aliya

Abstract

Generally, Curriculum is seen as the sum total of the learning activities and the experiences learners acquire under the direction of the school. It consists of planned opportunities to achieve the broad goals of Education. History has shown that the technical education curriculum is developed in haphazard manner with little consideration given to the impact of the development process. The major reasons for this is that curriculum developers often neglect to place emphasis on the relationships that should exist between data and curriculum decisions.

If the students are to be prepared for employment the curriculum should be one that is relevant. The extent to which a curriculum is successful will depend on the future-oriented perspectives associated with it. The writer therefore, proposed orderly procedures for curriculum design and implementation in the schools.

Definition of Curriculum

Curriculum may be defined as the sum of the learning activities and experiences that a student has under the auspices or direction of the school (Sawyer, 1977). Sayler and Alexander (1974), defined curriculum as a plan for providing sets of learning opportunities to achieve broad goals and related specific objectives for an identifiable population saved by a single school centre. Curriculum is an interrelated set of plans and experiences which a student completes under the guidance of the school (Marsh and Stafford, 1988). Macdonald (1971), stated that curriculum involves two separate action contexts, that is curriculum producing plans for further action; and the instruction putting plans into action. For the purpose of Curriculum design it could be seen as an educational programme designed and implemented to achieve specified educational objectives. It takes into account the facts that;

- Education is purposeful;
- There is an organized plan of action (programme) contemplated;
- Such a plan is translated into action through appropriate strategies of implementation.

The Curriculum should have the following characteristics;

1) be relevant to the needs.
2) be feasible for the working environment.
3) adequately communicate the intents and purposes.
4) guide planning strategies for implementation.
5) should be capable of being used as a basis for improvement.

Education System and Concept of Curriculum Design

The concept of curriculum design has gained wide acceptance. Opinions regarding details, however, differ considerably. For example, opinions differ regarding what elements should be included in the curriculum. Some suggest that the curriculum documents should include lesson plans, teaching strategies, etc were as others suggest that a list of objectives only are needed. A curriculum document is a product of the curriculum design process. Taba (1962), defined Curriculum design as a statement which identifies the elements of the curriculum, states what their relationships are to each other, indicates the principle of organization and the requirement of that organization for the administrative conditions under which it is to operate. It is good to look at what the present educational system is. Firstly, there are three main characteristics is every educational system. These are:

(a) Educational philosophy, which determines the goals which education should attain in the national context.
(h) Educational structure, which embraces the organizational and administrative arrangement, the levels and types of schools and other institutions related to learning and their natural relationships.
(e) Educational context, the subject of the curriculum and the teaching methods used.

Of these three, the educational philosophy is the most important, while the others merely serve its realization. I is only when the specific goals of education are being effectively achieved that an educational system can respond to those needs of the nation (economic, social, political, cultural, morale, etc) which are considered by the governing or competent authorities as the most important at a given stage of the governing or competent authorities as the most important at a given stage of the country's development. Therefore, educational philosophies vary from country to country.

Thus, an ideal educational system should:

(i) cater effectively to the educational abilities, age limits and aptitudes of every child, so as to give the child as much education and of such kind as it is capable of absorbing;
(ii) meet the requirement of the society for the kind of economic and social services it needs; and
(iii) produce democratically minded citizens who would be aware of their country's problems in an evolving civic world situation, and of their own responsibilities in helping to grapple with them.

Sequential Steps in Curriculum Design and Implementation Processes

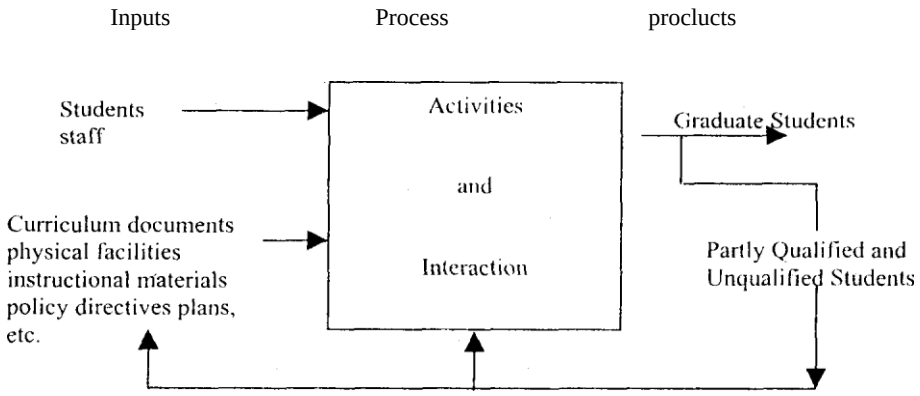

Figure: 1 Curriculum Process Required to Achieve the Designed Product or Objectives

It is understandable that there would be differences regarding aspects such as principles of organization, because of the different philosophies of education, different learning theories, at different levels and types of educational system. Then there is a question of determining what criteria and which sources should be used for various curriculum decision; who should make various decisions involved in curriculum design, what type of organizations and procedures are suitable and other similar issues. It would be profitable to understand the rationale of curriculum design and consider the issues which influence design strategies.

There are some common agreement by all. A look at the model below reveals the interrelationship among formal Education, informal Education, Education for life and Education for living.

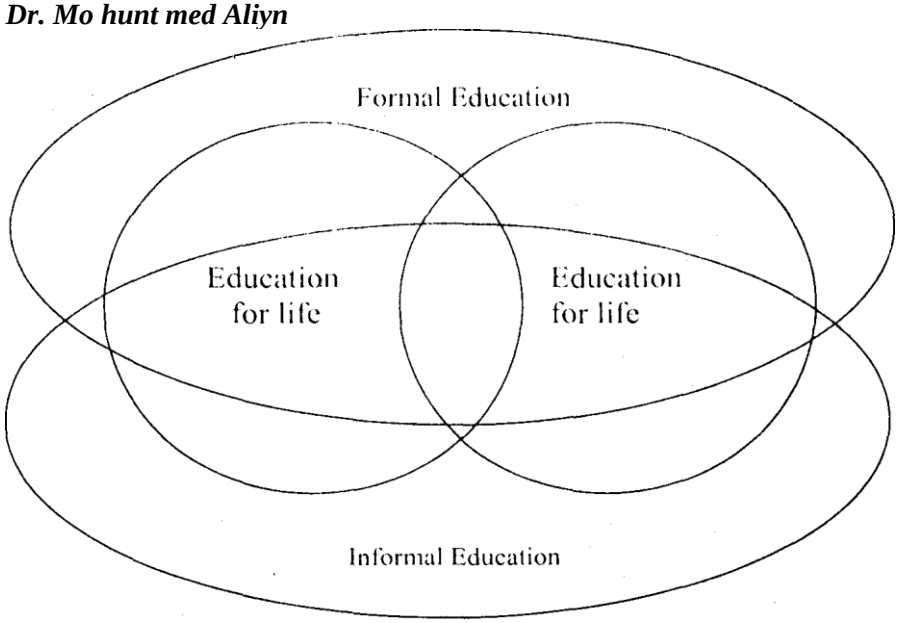

Figure 2: Education in Our Society.

Curriculum Rationale

The most frequently quoted curriculum rationale is that proposed by Tyler (1950).It is based on four basic questions:

(1) What educational purposes should the school seek to attain?
(2) What educational experiences can be provided that are likely enough to attain the purposes?
(3) How can these educational experience be effectively organized?
(4) How can we determine whether these purposes are being attained?

This rationale has been further developed by Taba (1962), in proposing an orderly procedure for curriculum development. The steps suggested in that procedure are:

(1) Diagnosis of needs.
(2) Formulation of objectives.
(3) Selection of content.
(4) Organisation of content.
(5) Selection of learning experience.
(6) Organisation of learning experience.
(7) Determining of what to evaluate and the ways and means of doing it.

Sequential Steps in Curriculum Design and Implementation Processes

These steps with some modification can be depicted as a basis framework for curriculum design implementation and evaluation as shown in Figure 3.

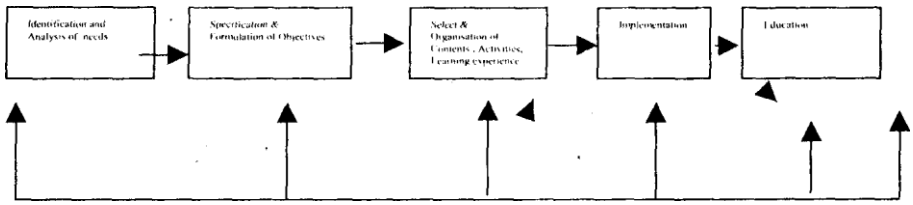

Figure 3: Frame Work for Curriculum Design Implementation and Evaluation.

The Rationale for Curriculum Development in Technical Education in More Detail

The uniqueness of the technical Education curriculum raises a critical question. What, is the basic direction that curriculum development in technical education should take? History has shown that the technical education curriculum have been developed in a somewhat haphazard manner with little consideration given to the impact of the development process. Another point is that the technical education curriculum soon becomes outdated if steps are not taken to keep it from remaining static. It must be recognized that the technical education curriculum thrives on relevance. The extent to which a curriculum assists students to enter and succeed in the work world shows the success.

As the technical education curriculum is being developed, the technical educators are required to deal with these concerns in such a way that quality is built into the finished product or graduate. A curriculum that is not developed systematically or that becomes static or irrelevant will have an adverse effect on all those who come in contact with it. In order to avoid this difficulty, curriculum developers must give consideration to the basic character of the curriculum and build in those factors that contribute to its quality.

While some of these factors might apply equally well to any sort of curriculum development, they are especially relevant to technical education. As the development process is going on, outcomes of the process must be made clear. It is hoped that these outcomes will lead to a technical curriculum that is data- oriented, evaluation-conscious, and explicit in its outcomes, fully articulated, realistic, student-oriented, evaluation-conscious, and future-oriented. Each of the above is important to the success of the contemporary technical education curriculum and as will be seen, each is concurrent with the character of technical education.

Data-Based

The contemporary technical curriculum cannot function properly unless it is data-based. Decisions about whether or not to offer a curriculum need to be

founded upon appropriate school-and community-related data. Curriculum content decisions should be made after a variety of data such as student characteristic and the nature of the occupation which a student being prepared for will have to be assembled and examined. The quality of curriculum materials is determined after data have been gathered from teachers and students who use them. In fact the use of data as a basis for curriculum decisions cannot be overemphasized. The reason for this is that developers of traditional curriculum have often neglected to place emphasis on the relationships that should exist between data and curriculum decisions.

Dynamic

It might be said that a static curriculum is a dying curriculum. Just as technical education is in a dynamic state, its curricula must likewise, be dynamic. Administrators, curriculum developers, and teachers must constantly examine the curriculum in terms of what it is doing and how well it meets student needs. Provision should be made for curricular modification for tangible improvements and the quality control of students' performance.

Explicit Outcomes

Not only must the contemporary technical curriculum be responsive to the world of work. It must also be able to communicate this responsiveness to both teachers and students. Broadly slated, goals are important parts of any curriculum. However, these goals are only valid to the extent that they can be communicated in a more explicit manner. While it is recognized that we can state all curricular outcomes in specific measurable terms, many of these outcomes may be written down in such a manner that the broad curricular goals are made more quantifiable. To the extent that outcomes are explicit, we will be able to tell whether students achieve them and how the outcomes relate a particular occupation. This is perhaps the most commanding reasons for ensuring that curriculum outcomes are clear and precise.

Fully Articulated

Although courses and other educational activities contribute to the quality of a curriculum, the way they are arranged in relation to each other makes the difference between something that is merely satisfactory and something that is superior. Curriculum articulation may involve the resolution of content conflicts across different areas or development of a logical instructional flow from the first year to the second year. Articulation might extend to determining the ways co-curricular or deciding which mathematics concepts should be taught as a prerequisite to a particular technical course for instances. A student must have Physics background to be able to study Electricity/Electronics.

Curriculum articulation takes through levels of schooling, Reduction or elimination of instructional duplication at the secondary and post - secondary

levels might be a major concern of the curriculum developers as well as those who are responsible with the funding of education at all levels.

Realistic

The technical curriculum cannot operate in a vacuum. If students are to be prepared properly for employment, the curricular focus must be one that is relevant. Content is not developed merely on the basis of what a person should know but also includes what a person should be able to do Technical curriculum contents is typically based on actual curriculum with relevant task, knowledge, skills attitudes and values serving as a foundation for what is to be taught. Great emphasis must be placed upon practicality. Since the bulk of a worker's time is spent in applied areas, many student experiences must, likewise, be of a practical nature. Hands-on experience in a laboratories or classroom setting provide the student with a relevant means of transferring knowledge, skills and attitudes to the world of work.

Student-Oriented

Most curricular are, to some extent, student-oriented, and curricula in technical education are certainly on exception. Currently there is a great deal of concern about how a curriculum can best meet students' needs. Various approaches such as team teaching, differential staffing, and individualized style have been used by teachers to help meet these needs. Regardless of the approach the teacher uses, a basic question has been answered. As to what extent will the approach actually assist students in preparing for employment?

Another aspect of student orientation deals with the teaching learning process. Not only must the curriculum meet group needs but there is an obligation to meet the individual students' needs. In order for those needs to be met in an expeditious manner, arrangement could for example, be made to provide instruction at various ability levels, to develop individual training plans, or to make available alternate paths for the achievement of course objectives. Whatever the means used to assist students, a basic concern should be with the individual and how a student be helped in the best possible ways.

Evaluation-Conscious

Evaluation is perceived by many to be an activity that comes periodically in conjunction with accreditation procedures. Realistically, administrators and teachers cannot wait that long to find out how successful they have been. Curriculum evaluation has to be an ongoing activity-one that is planned and conducted in a systematic manner. Anyone who is involved with the vocational and technical curriculum, should be aware that evolution is a continuous effort. As a curriculum is being designed plans must be made to assess its effects on students. The curriculum has to be implemented and data have to be gathered, school personnel will see were strengths and weaknesses exist.

Future-Oriented

Toffier's (1980), say that all education springs from some image of the future this is a vital concept since the society educate for the future rather than the past or present. Since change is constant in education, physical facilities most be design to accommodate future change obviously the future can not be plant in a vacuum. **A** review of the evolving patterns in curricula, methodology an educational technology in technical education provides the planner with a base from which to start in the initial planning of physical planning environment. What technological changes might affect the need for graduates what types of school laboratories will be needed twenty years from now? What sorts of continuing education will be needed by students who are in school right now? These and other questions are often raised by technical educationists who think in futuristic terms. Persons responsible for the contemporary technical curriculum need to ensure that ongoing curricula are considered in relation to what will or may occur in the future. As decisions are being made about curriculum content and structure, thought should be given to the future results that might come from those decisions. Any curriculum that hopes to be relevant tomorrow must be responsive to tomorrow's as well as today's needs. The extent to which a curriculum is successful will defend on review or revision every five years.

There are Different Models of Curriculum Design, they are:

1) Individual Needs Approach (Fig. 4).
2) Subject Specialization Approach (Fig. 5).
3) Social Demand and Job Analysis Approach (Fig. 6).
4) Model in Current use for Technician Education (Fig. 7).

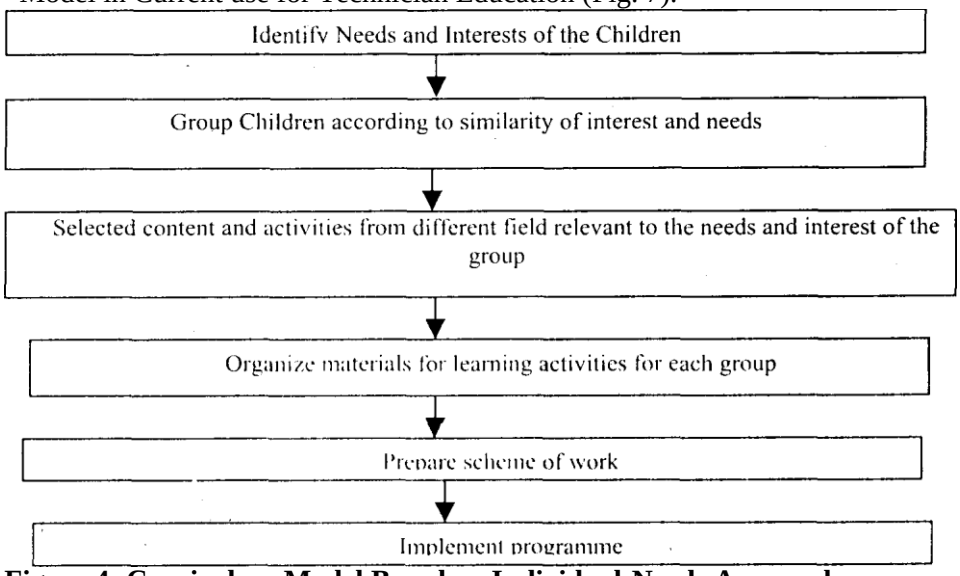

Figure 4: Curriculum Model Based on Individual-Needs Approach.

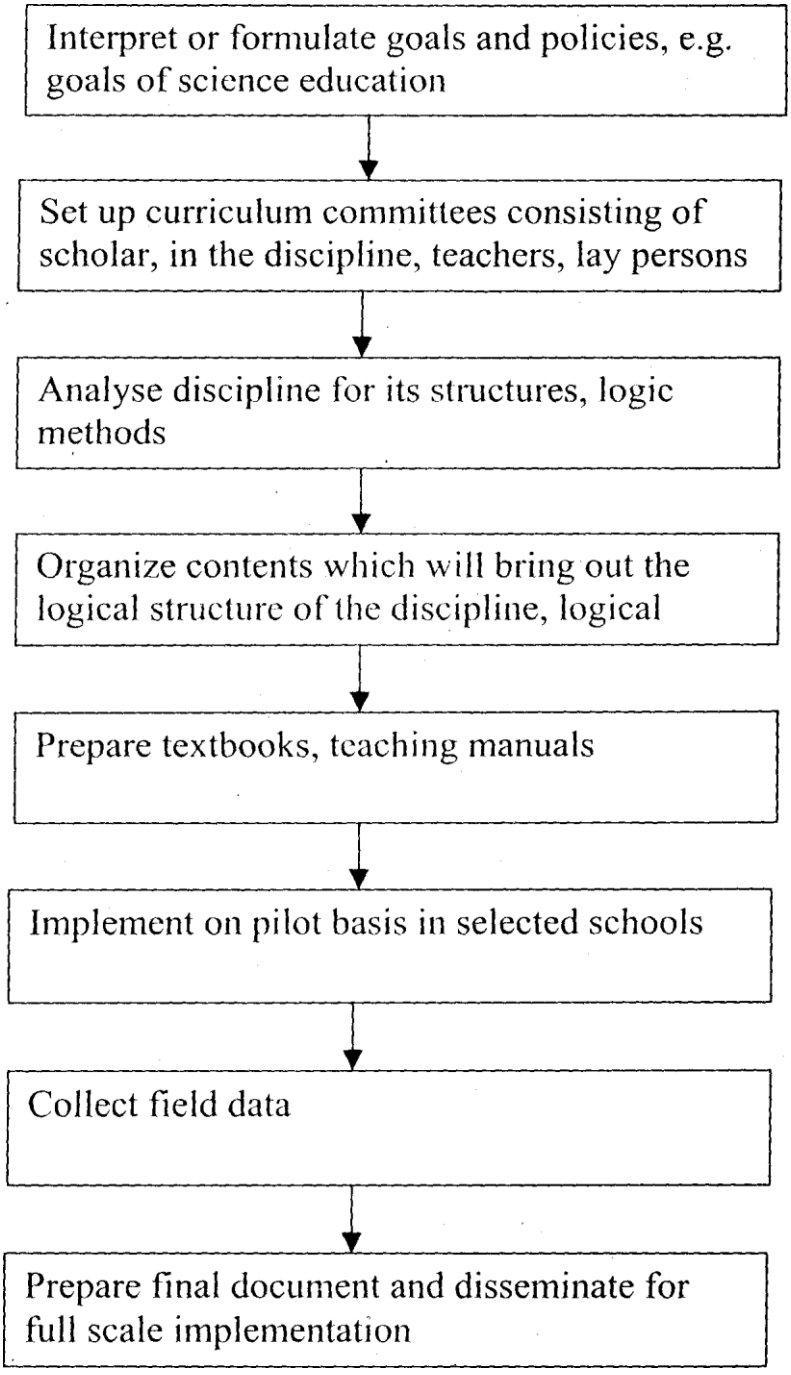

Figure 5: Curriculum Model Based on Subject Specialization Approach

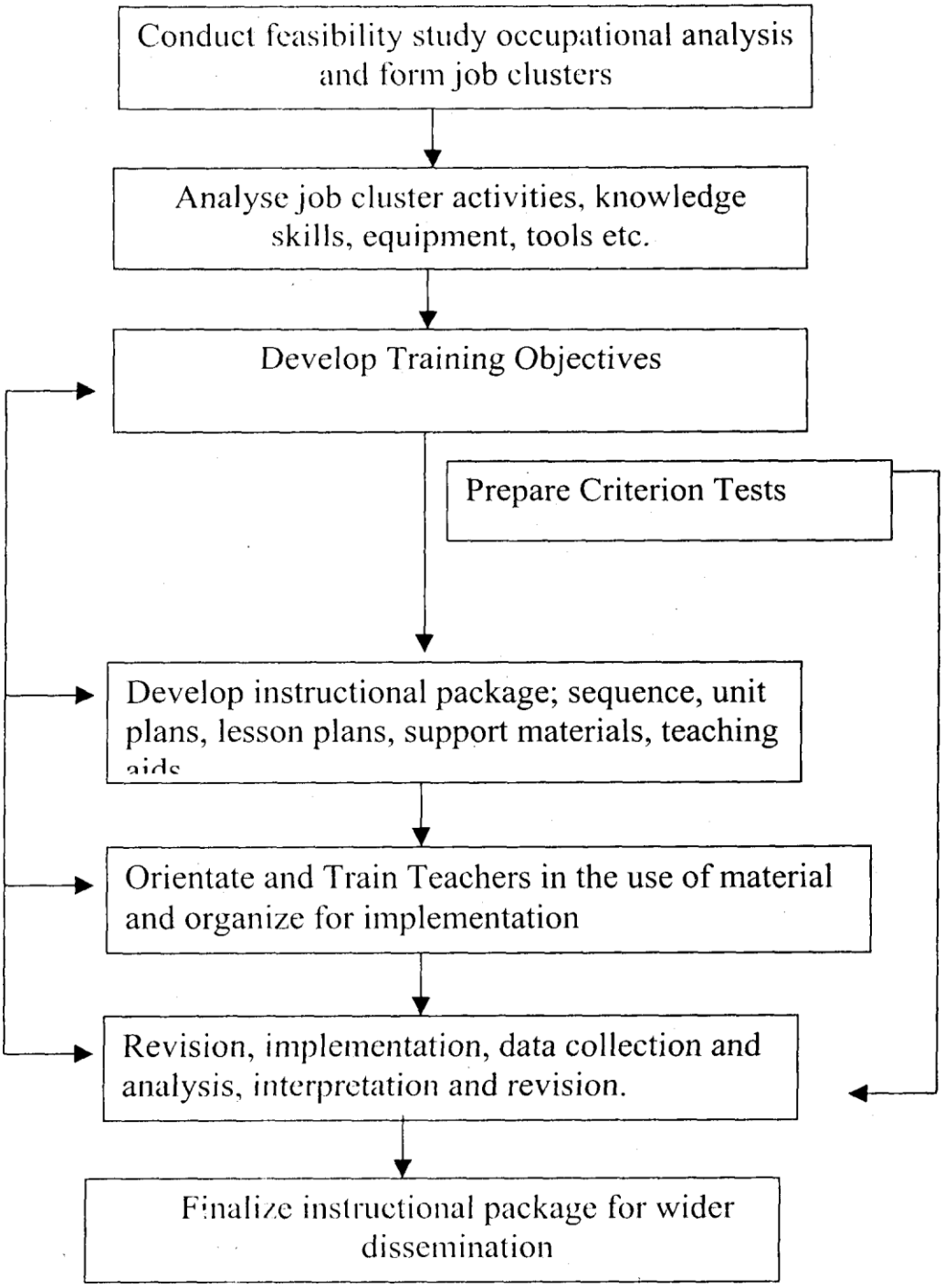

Figure 6: Curriculum Model Based on Job Analysis Approach.

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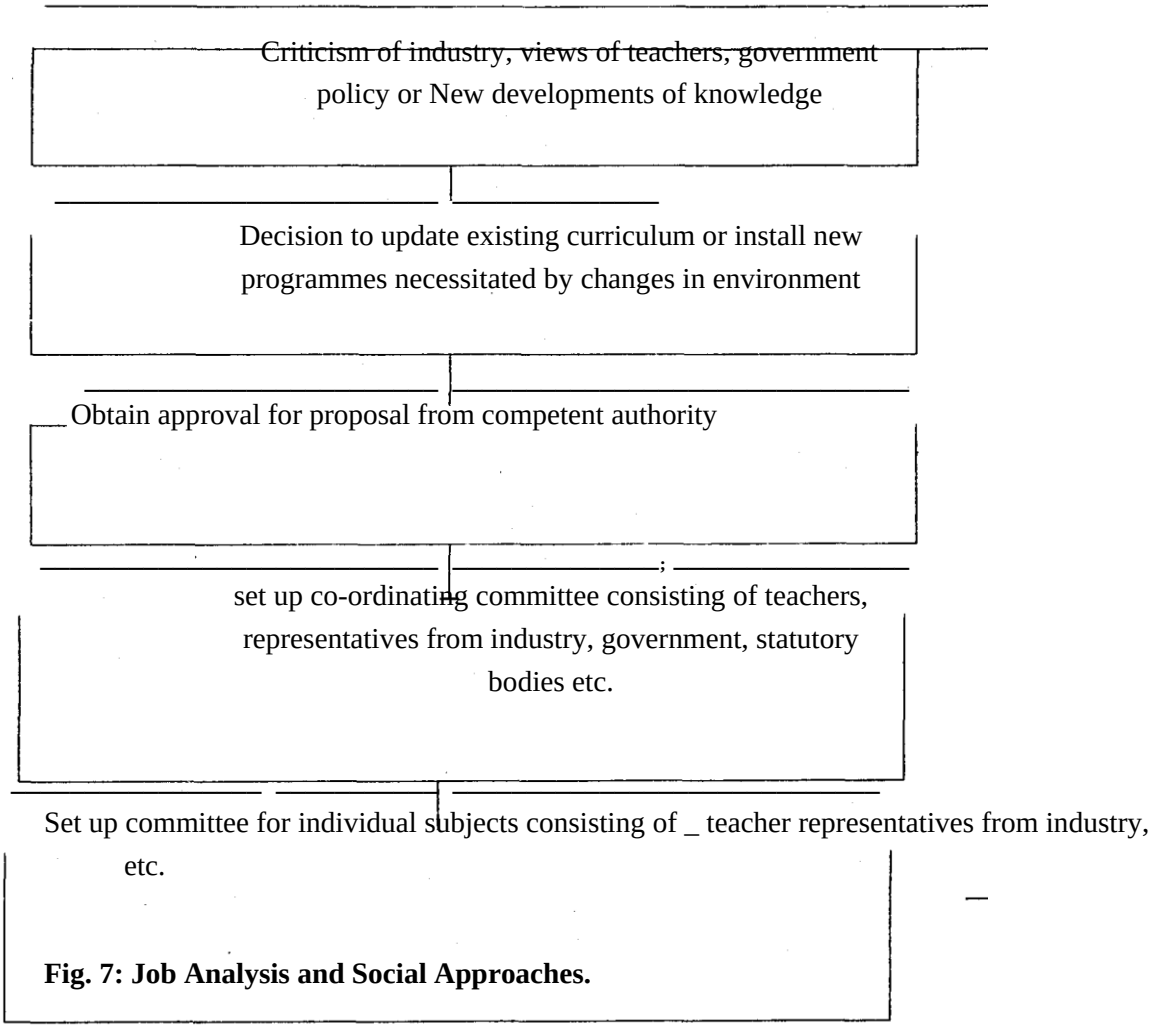
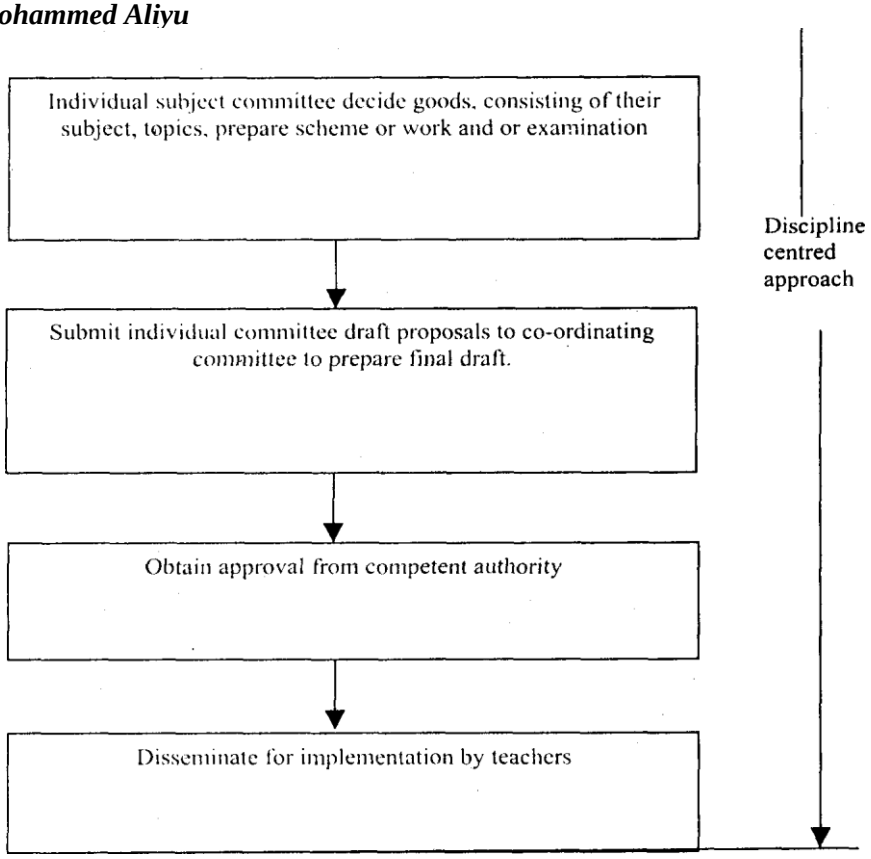


Fig. 7: Job Analysis and Social Approaches.



Model in Current Use

In addition to the fundamental sources discussed, there is another very important source lor making curriculum decision and that is the existing curriculum. No one would argue that everything in an existing curriculum is worthless. It is perfectly legitimate to start with an existing curriculum and update to improve it provided the changes are made based on some rational and obsolete topics removed when new topics are added. If this is not done, the curriculum becomes overloaded and learning suffers.

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