Unit -7

EVALUATION OF CURRICULUM

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INTRODUCTION

Broadly speaking the term evaluation refers to the process undertaken to ascertain as to what extent the aims and objectives of a particular programme in education have been achieved. And if the objectives have not been achieved, what have been the possible hurdles in achieving the desired objectives. Before we discuss the concept of evaluation with reference to curriculum, it seems appropriate to briefly describe the difference between evaluation and measurement.

Evaluation of the curriculum of any specific course deals with all the educational outcomes related to it, whereas measurement deals specifically with those characteristics that can be easily quantified. In evaluation such techniques may have to be evolved as may help the educators to analyses and assess the merits and shortcomings of any curriculum. Further, any problems involved in implementing a curriculum successfully have to be identified and resolved in order to achieve its educational objectives.

The procedures of evaluation involve certain steps which should, however, be flexible enough to be adjusted as per exigencies arising from time to time. These procedures are useful in guiding the thinking of those who are carrying out the evaluation. The steps which have to be evolved by careful and intensive analysis of the types of the tasks involved. While the strategy for curriculum evaluation should be adjusted according to the particular problems and situations under consideration, certain models which will be described in this unit can play a very important part in the process. Curriculum evaluation should not only be a means judging educational effectiveness, but also if applied critically and intelligently, should lead to useful decisions that can serve as a powerful force to improve the educational process as well.

OBJECTIVES

After studying this unit, you should be able to:

1. Mention the main purposes of curriculum evaluation and the extent to which an evaluation can be made.
2. Analyze the goals and objectives of educational programmes for relating them to the evaluation.
3. Design strategies and methods for the evaluation of specific educational programmes in accordance with the needs of the situations.
4. Suggest means of improving educational curricula and processes in the light of the evaluation of the programmes.

1. THE AIMS OF CURRICULUM EVALUATION

When curricular innovations are introduced, it is an important task of educators to determine their effectiveness. An assessment of any new programme has to be made to · find out if the desired outcomes are being achieved; and to what extent, if at all, it results in significantly better learning than the existing programme. The use of evaluation techniques should enable curriculum workers to make steady progress in improving the curriculum.

The major aims of curriculum evaluation may thus be summarized as follows:
(a)   to determine the outcomes of a programme;
(b)   to help in deciding whether to accept or reject a programme;
(c)   ·   to ascertain the need for the revision of the course content;
(d)   to help in further development of the curriculum materials for continuities
        Improvement.   Curriculum so that necessary changes can be made in the instructional programme.

In testing and measurement, greater emphasis is placed upon those characteristics that are easy to quantify and thus important outcomes such as problem solving, creativity, critical thinking, work habits, and cultural appreciations tend to be neglected. Uncritical use of testing and heavy reliance on test results have caused a widespread spurious sense of certainty about educational accomplishments. Evaluation, however, is aimed at measuring all the educational outcomes, not just those which lend themselves easily to quantification.

The purposes of evaluation for curriculum innovations include the collection of information to be used as:
(a)   feedback to the innovators for further revision of materials and methods;
(b)   input for decision-making in the course;
(c)   empirical data on behaviour changes under curriculum treatment.

Professional educators who implement the curricula should be held accountable for successful achievement of educational outcomes. This involves:
(a)   developing improved, more comprehensive measurements of pupil performance,
(b)   making analysis of the contributions made to the pupils' performance by educators, administrators, planners, institutions and other agencies in the educational process.

Curriculum evaluation, which should assess all aspects of the programme, should give a clear picture of the educational processes and products that should not only have.

prognostic value as regards the success of the programme ,but should also have a diagnostic value in adapting and improving the programmer to the satisfaction of all concerned.

1.2   Self-assessment Questions: Exercise]

1.   State, in brief, major objectives of curriculum evaluation.

2.   Compare the domains of measurement of educational achievement and evaluation of the curriculum.

. 3.   List the processes for which information/data are used in the evaluation of curriculum innovations.

4.   Tick true or false against the following statements:
   (i)   Evaluation of curriculum is not related to educational outcomes.   T/F
   (ii)   Intelligent handling of curriculum evaluation also helps in improving educational process.   T/F
   (iii) Need for curriculum revision maybe judged through curriculum.   T/F
          evaluation.
   (iv)   Curriculum evaluation provides feedback to innovators.   T/F

2. EDUCATIONAL GOALS AND CURRICULUM OBJECTIVES

Statements of goals and objectives of the curriculum have many valuable uses. The congruence between the intent of the curriculum and the actual educational outcomes has to be investigated. In addition to abilities, the importance of attitudes, values, interests and sentiments in the educational process has been increasingly recognized. Also the behavioural approach to the statement of objectives have gained a new impetus because of its value in the educational process. Valid evaluation is facilitated by a statement of the aims and objectives of education, arranged in a hierarchy of national, regional, local, subject and course areas drawn to blocks and units and even to daily lessons.

2.1 Development of Educational Goals

Philosophers and educationists have for centuries been discussing the aims and objectives of education. Now more than ever, the problem of educational goals is a top priority though still a largely unresolved problem. The main reason for this is that in spite of all our efforts, the goals produced are essentially nonfunctional, even when stated in behavioural terms.

The goals of education usually tend to be nonfunctional for the following reasons:

(i) In the statements of objectives, too much reliance is placed on words like, 'continued development of values and character' or 'perfecting the intrinsic powers of every citizen'. While these sound enthusiastic, these lack clarity about the goal and hence the actual educational process that needs to be adopted for achieving these goals.

(ii) There is a lack of public involvement with the educational experts and educators in the clarification of objectives. Sometimes public participation narrows down the goals, but ultimately the goals are to be controlled by them.

(iii) The goals have too often been assumed as given and concentration has been directed to how to achieve the so called assumed or given goals. Changes in goals, that form a part of the educational process, have to be created by every generation.

(iv) Those at the helm of affairs tend to interpret the goals according to their perception which makes them too hazy.

2.2 Role of Educational Measurement in Defining Goals

Tests are related to the major concerns in the educational process help in the development of meaningful goals without proper measures of the outcomes, there would be no direction as to the goals. The notion of the process of education in an institution, without proper evaluation, would be hazy and narrowly defined. Along with the measurement of basic skills and mastery of academic subjects, academic honesty and a sense of self should be used in the discovery and development of educational goals.

2.3 Consideration in Selecting Goals

The criteria for the goals of education should be developed in relation to:

(i) the values of the society as a whole and of individual members;

(ii) the historical background of the society;

(iii) the potential urge of the society to move forward and progress;

(iv) the present standards and abilities of the students; and hence the possibility of achieving the goals;

(v) the educational philosophies of the institutions and the extent of teachability of the subject-matter under study;

(vi) different theories of learning;

(vii) the measurability of the goals, if and when achieved. A goal, the achievement of which, is not measurable is a vague goals.

2.4 Educational Objectives and their Taxonomies

As you will recall from unit-4, objectives are more precise than goals. Broad goals are analysed and made more specific and useful. as building blocks for instruction.

Although you have read about taxonomies already in unit-4, perhaps it would be worth repeating the basic points again. A taxonomy is a classification scheme and a relatively concise model for the analysis of educational objectives.

You will recall that the taxonomy de others in USA was divided into three domains:

(i) The Cognitive Domain, dealing with thinking, knowing and problem solving.

(ii) The Affective Domain, including the objectives dealing with attitudes, values, interests, appreciations and socio-emotional adjustment.

(iii) The Psychomotor Domain, covering the objectives dealing with manual and motor skills i.e. the activities to be performed as a result of bodily movements.

2.5 The Cognitive Doman

The cognitive domain is divided into:

(i) The acquisition of knowledge.

(ii) The development of intellectual skills and abilities necessary to use knowledge.

More specifically, you may remember that Bloom's categories were as follows:

(i) Knowledge, recalling facts, concepts, trends generalizations, principles, etc.

(ii) Comprehension, understanding, translation, interpretation, and extrapolation.

(iii) Application, using abstractions in particular concrete situations.

(iv) Analysis, hreaking down for clarity of thinking of elements, relationships and organizational principles.

(v) Synthesis, producing a unique communication by reorganizing and rearranging the facts.

(vi) Evaluation, judging in terms of (i) internal evidence (logical) and (ii) external evidence (consistency of facts developed).

2.6 The Affective Domain

As you have already read in this unit as well as in unit-4, the affective domain is concerned with values, interests and emotions etc. This domain has got the following categories: -

(i)   Receiving (attending), awareness, willingness and-selected attention.
(ii)   Responding, acquiescence, willingness and satisfaction in response.
(iii)   Valuing reference for a value and commitment.
(iv)   Organization as a value and organization of a value-system.
(v)   Characterization of a value complex as a generalization.

2.7 The Psychomotor Domain

This domain includes the following

(i)   Reflex movements: Functions at birth like stretching, stiffening, relaxing.
(ii)   Fundamental movements such as walking, running, jumping, **Pulling**, pushing etc.
(iii)   Perceptual abilities visual and auditory discrimination, bending, bouncing, eating, writing etc.
(iv)   Physical abilities: Such as strenuous activity, moving quickly and wisely, touching toes, stopping and starting immediately etc.
(v)   Skilled movements: They include typing, skating, filing, juggling, playing musical instruments.
(vi)   Non-discursive communication: It includes behaviour ranging from facial expressions to highly sophisticated communications.

2.8 Educational Objectives: A Position Statement

(i)   The objectives should, usually, be apparent to educators and learners.
(ii)   A sound educational system provides for occasional reassignment of immediate objectives to take advantage of special opportunities, that occurs.
(iii)   Global objectives provide little guidance to teaching and evaluation and specific objectives most often ignore vast concerns.

2.9 Self-assessment Questions: *Exercise No. 2*

1.   Explain the value of a systematic statement of objectives of an educational progamme for valid evaluation.
2.   Why are the goals of the educational process mostly stated in non-functional terms?
3.   How are tests related to the objectives of education?
4.   What are the main related, variables in the development of criteria for the goals of education?
5.   Define and explain the different categories falling under the cognitive domain of educational objectives.
6.   How is the affective domain of educational objectives related to curriculum evaluation?

3. DESIGNING EVALUATION STUDIES

Having briefly revised objectives, let us look more closely at ways of evaluating the extent to which educational goals and objectives have been achieved. An evaluation study requires a lot of thinking as well as proper planning to get useful results. Generally, most attention has been placed on the evaluation of the content,-- the basic on which the curriculum development was approached. Recent trends towards more process- concept or behavioural based programmes demand more adequate definition of evaluation, better related criteria for judging value and more sophisticated mechanisms for organizing the procedures and models for reporting. Every evaluation study has peculiarities of its own but the design of the study has to be planned using rational procedures. Various strategies and models for designing evaluation studies have been tried and a summary·statement of the procedures involved in some of them will now be attempted.

In organizing a curriculum evaluation, logically and intelligently, leading to decisions on the effectiveness of the programme and its possible improvement, one suggested strategy involves the following:

(a) Specification, refinement, or modification of programme goals and evaluation.
(b) Planning for an approximate evaluation design.
(c) Selection or development of data-gathering methods.
(d) Collection of relevant data.
(e) Processing, summarizing and analysis of data.
(f) Contrasting of data and objectives.
(g) Reporting and feedback of results.

3.1 · Steps in the Evaluation Process

The evaluation process should include the following steps:

(i) The involvement of all concerned in the study as facilitators of programme evaluation, such as:
    (a) related groups, boards, parents,
    (b) professional individuals, psychologists, teachers,
    (c) Student groups.
(ii) The formation of a cohesive model of broad goals and specific behavioural objectives, arranged in hierarchical order from general to specific outcomes in respect of all the three domains of objectives;
(iii) The translation of specific objectives into a communicable form, applicable to facilitating learning; and the application of instructional strategies with content and process components.
(iv) The choice of instrumentation (test, observations, interviews, etc.) which will allow one to make inference about programme effectiveness.
(v) Periodic observation of behaviours as valid and reliable indices.
(vi) The analysis of data, given by measurers, by typical statistical methods.
(vii) The interpretation of data relevant to specific objectives and broad goals to allow conclusions to be drawn about the effectiveness of the programme and instructional strategies.

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(viii)   Recommendations culminating in further modifications and revisions of broad goals and specific objectives to produce substantial improvements, in the programme.

3.2   Methods of Curriculum Evaluation

Some of the methods used to determine the effectiveness of an educational programme are outlined below:

(i)   *The cosmatic method deals* with the apparent activities and face value of the programme. Evidence about students' learning is not collected.

(ii)   *The cardiac method* involves an empirical approach. The effectiveness of the programme is shown through the collection of data.

(iii)   *The colloquial method* recommends the discussion of the finding on the programmes' effectiveness by a group of people associated with it.

(iv)   *The curricular method attempts* to show how the new programme could fit into the old one for improvement.

(v)   *The computational method* uses the statistical analysis of the data on performance in the programme.

It may be mentioned here that each of the above cited methods has got its own minus-plus points. It is not, therefore, advisable to recommend or adopt exclusively any one method at the cost of others for all situations and purposes. It should, therefore, mainly depend upon the relevant crucial factors which should help in determining the method of evaluation to be adopted.

3.3   Activities

i.   Get hold of some study reports on curriculum evaluation from the Curriculum Wing and identify their salient features.

ii.   Interview some of the curriculum evaluators and not down the major steps followed by them in curriculum evaluation.

3.4   Problems of Research Design in Curriculum Evaluation

Research projects on the effectiveness of the curriculum are carried on, generally, using a comparison between experimental and control groups. In the experimental group, the curriculum variable interacts with many other elements in the teaching process— the methods of instruction; the training and indoctrination of teachers etc. *A control* group is a group of subjects (the students being included for the evaluation design) as similar as possible to the experimental group, the difference being that they are not given the experimental treatment. A statistical comparison is then made between the achievements of the two groups to discover whether there is any significant difference between them.

As alternative to such an experimental approach to curriculum evaluation the following may be suggested:

(a)   An attempt might he made to isolate characteristics of a curriculum to vary them independently. For example, teachers' attitudes vary and are not under control but

can be measured and their effect on performance studied; or innovative material might be used with teacher training.

(b)   Statistics could be used to suggest the process of learning as related to curriculum elements. The investigation could look for trends, ups-and-downs.
(c)   Clinical studies can be done on developmental psychology problems.
(d)   The curriculum variable could be redefined at the point of its effect, the interaction between the teachers and students. Observations of the process and interviews could be recorded for an assessment of teachers' attitudes.

Comparison of paralled experimental and control groups may not be meaningful as this approach assumes that all the relevant variables (except the curriculum variable) have been constant. But in such complex situations, this may be difficult to achieve. Instead of taking the groups simultaneously, evaluation using longitudinal studies would consider the curriculum as a process, a succession of events changing systematically over-time.

In evaluation, behavioural definitions of the objectives are demanded from the course designers. Evaluators tend to equate behaviour with items in the cognitive processes. However, achievement tests may be sufficient to assess the objectives of the curriculum. The study of such typical performance variables as attitudes, learning and teaching the development of instruments for measuring such variables are among the major problems of evaluation studies. Also the new curricula are subject oriented and the evaluators' behavior concept is often rejected by the subject disciplines and the process of teaching has to be examined; and all those concerned with education should contribute not only to the improvement of a particular subject in particular circumstances but also the understanding of the process of teaching and learning.

The purpose of evaluation is to determine the success or failure of any programme in achieving its objectives. In attempting to evaluate a programme, a record has to be maintained for investigation regarding:
(i)   The objectives of the programme.
(ii)   The environment provided.
(iii)   The transactions between the teachers and students.
(iv)   The students' progress.
(v)   The side-effects of other variables.
(vi)   The merits and short-comings seen from divergent viewpoints.

Depending on the interests/intents of evaluators in the concerned field and considering the entity, standards and anticipated decisions, *some major antecedents variables, transactions between and outcomes* are listed below:
(i).   Antecedents
        Student characteristics
        Teacher characteristics
        Curricular content
        Curricular context

Instructional materials
Physical plant
School organization
Community context

(ii)   **Transactions**
Communication flow
Time allocation
Sequence of events
Reinforcement schedule
Social climate

(iii)   **Outcomes'**
Student achievement
Student attitudes
Student motor skills
Effect on teachers
Institutional effects

Such a description as given above helps to identify the many characteristics of programme to be evaluated. The evaluator must choose the variables to be described and judged according to his interest and talent. As for the sources of information they may be described as teachers, administrators, parents and so on. The evaluator has to choose the relevant variables by using.

(i)   Intents
(ii)   Observations
(iii)   Standards
(vi)   Judgements

To be more specific:

(i)   The *intents* are indicated by the different goals of the people involved.
(ii)   The *observations* refer to the perceptions of what actually happens during the implementation of the programme.
(iii)   The *standards* depend upon the opinions of experts as to what should happen.
(iv)   The judgements reflect the feelings of the people about aspects of the situation.

3.5   Course Improvement Through Evaluation

In order to find out ways of improving a course to enhance learning, its effectiveness must be assessed. Data collection should include information which will help in evaluating the difficult area of the affective outcomes of the newly developed curriculum. The most useful evaluation information is that which allows for adjustment and modification in the developmental stages of the curriculum, rather than simply examining, the end-products only. This, of course, would be a deviation from the traditional testing approach.

Any tests used should fit into the contents of the curriculum and should produce reliable and valid scores. Test results may soon be forgotten, however, instead of being followed up for use. Remember that the purpose of evaluation is to study the changes in the pupils following the programme and to use this information to identify where improvements should be made to facilitate improved learning.

Opinions about an educational programme are often biased. The gethering of data using appropriate tests produces more objective results. The achievements of standards should be measured through the use of standardized tests of all relevant areas of proficiency, while attitudes can be assessed through interviews and questionnaires.

But systematic evaluation involves more than simply administering tests and analysing the results. Apart from measuring proficiency and attitudes, approaches to evaluation can include, for example, *process* studies of classroom events and follow-up studies of the later careers of the subjects. And the results of evaluation studies should be implemented to produce improvements in the curriculum.

3.6   Conclusion
Old habits of thought and techniques are poor guides for course improvement. For this, more systematic evaluation is necessary. Such evaluation should produce a description of the outcomes of a programme on a broad scale, to ascertain the 'changes produced during a course and the revision needed.

Even the collection of appropriate data will make little contribution, if it leads only to approval or disapproval of a programme. Evaluation is a fundamental part of curriculum development, not just an appendage. It involves collecting facts that the course developer can and will *use* to do a better job.

3.7   Self-assessment Questions: *Exercise No. 3*
1.   Develop a logical strategy for designing an evaluation of an educational programme.
2.   List the steps involved in the evaluation process.
3.   Distinguish between cosmetic, cardiac, colloquial and computational methods of curriculum evaluation. Which one of them do you think to be the most appropriate for curriculum evaluation and why?
4.   Explain the experimental research approach to finding out the effectiveness of a new curriculum.
5.   Identify True/False from the following statements:
(a) Evaluation is concerned with an overall outcomes of a programme.   T/F
(b) Measurement deals with easily quantifiable aspects of evaluation.   T/F
(c) Interpretation of educational goals by those who are at the helm of affairs makes the former too hazy.   T/F
(d) Affective domain of objectives deals with thinking, knowing and problem solving
                    T/F
(e) Tests need to provide help in developing meaningful goal.   T/F

(f) Recent trends in evaluation are not directed towards process-concept and behavioral-based programmes.   T/F
(g) Development of instruments like tests, observation, interview should precede the development of educational goals.   T/F
(h) Data collected for evaluation may be analysed by any statistical method.   T/F
(i) The cosmetic method of curriculum evaluation deals with empirical approach   T/F

3.8   Answers to the Self-assessment Questions: Exercises -13

Exercise No. 1

For answers to questions 1 to 3 see relevant sections of the unit.

Q. 4   (i) F.   (ii) T.   (iii) T. (iv)

Exercise No. 2

For answers to question. 1 to 6 see relevant sections of the unit.

Exercise No. 3

For answers to questions 1 to 4 see relevant sections of the unit.

Q. 5   (a) T. (b) T.   (c) T   (d) F.

(e) T.   (f) F.   (g) F.   (h) F.

(i) F.'

4. BIBLIOGRAPHY

Lewy, Arich, *Handbook of Curriculum Evaluation (UNESCO)*, Longman Inc., New York, *1977.*

Barro, Stephen M., "An Approach to Development Accountability, Measures for the Public *Schools,"* *Phi Delta Kappan, 196 205: 52, December, 1970.*

Cronbach, Lee J., "The Discovery and Development of Educational Goals",1966 *Invitational Conference on Testing Problems,* Educational Testing Service, Princeton, N.J. *1224, 1967.*

Forehand, Garlie A., "The Hole of the Evaluator in Curriculum Research", the *Journal of Educational Measurement, 199 204.3, 1966.*

Krathwohl, David R., "Stating Objectives Approximately for Programme for Curriculum and for Instructional Materials Development", Jo*urnal of Teacher Education, 83-92:16,* March, *1965.*

Light, R.J., and Smith, P.V., "Choosing a Future Strategy for Designing and Evaluating New *Programme", Harvard Educational Review, 1 28: 40, Winter 1970.*

Lindval, C.M. and Cox, R.C., "The Role of Education in Programme for Individualized *Instruction:, in Educational Evaluation, New Roles, New Means,* edited by. R.W. Tyler, Sixty-eighth Year Book of the National Society for the Study of Education, University of Chicage Press, Chicage, *156-188, 1966.*

Mayhew, Lewis B., "Measurement of Non-cogon *Evaluation in Social Studies,* Thirty-fifth Studies, *1965.*

Metfessel, Neston S., "instrumentation of Bloom' of Educational Objectives", *Psychology in the schools, 227 231 6, 1969.*

Metfessel, Newton S., and Michael William B., "A Multicriticism Evaluation Model, *Educational and Psychological Measurement, 1931-43: 27, 1967.*

Payne, David A., *Curriculum Evaluation, D.C.* Heath and Company, Massachusetts, *1974 .*