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ABSTRACT
                The purpose of this monograph is to discuss the
minicourse as a model for the continuing education of teachers. The
first section defines the minicourse and describes its evolution. The
second section discusses the characteristics of the minicourses at
the Centre for Advancement of Teaching (CAT) at Macquarie University,
New South Wales, Australia. These characteristics include: (1)
meeting a need, (2) specific objectives, (3) self contained, (4)
short duration, (5) skills orientation, (6) wide participation, (7)
varied learning activities and diverse ways of introducing ideas, (8)
emphasis on creative activity, (9) evaluation, and (10) follow-up. In
the next section a listing of the current CAT minicourses is
presented. The following section describes the steps in the
development of a minicourse. It states that a minicourse is
essentially a self-contained minicurriculum, and therefore the steps
in production are essentially a miniaturized version of the classical
steps of curriculum development. The final section details the
problems of evaluating the effectiveness of a minicourse, and
presents a model to use in the evaluation. A list of references
completes this document. (RC)

C.A.T. EDUCATION MONOGRAPH

No. 13

THE MINI-COURSE
AS A MODEL FOR THE
CONTINUING EDUCATION
OF TEACHERS

MACQUARIE UNIVERSITY

CENTRE FOR ADVANCEMENT OF TEACHING

THE MINI-COURSE AS A MODEL FOR THE CONTINUING EDUCATION OF TEACHERS

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CONTENTS

THE MINI-COURSE AS A MODEL FOR THE CONTINUING EDUCATION OF TEACHERS

The concept of the minicourse arose in the United States in the last decade as an extension of the audio-tutorial (Postlethwait, Novak and Murray, 1969; Meyer, 1972). In an audio-tutorial the content of a given course is broken into units or modules containing semi-programmed and self-paced learning materials co-ordinated by audio-tape recordings. A module has been defined as a self-contained, independent, self-paced unit of work programmed to a set of objectives (Postlethwait and Mercer, 1974). The characteristics of modules have been described and discussed (Creager and Murray, 1971). Creager and Murray have set out the components of a typical module as listed below:

1. Statement of purpose

2. Desirable prerequisite skills

3. Instructional objectives

4. Diagnostic pre-test

5. Implementers for the module (i.e. equipment and supplies)

6. The modular program

7. Related experiences

8. Evaluation post-test

9. Assessment of the module.

The minicourse has grown out of the module concept by freeing modules from the restrictions of self-pacing. While keeping within the constraints of a short time span, mini-courses maximise the variety of strategies and media to ensure achievement of highly specific objectives. They utilise those strategies and media most appropriate for the achievment of their stated objectives and may or may not be individualised and self-pacing.

The following table traces the transition from conventional courses to the *audio-tutorials* of the mid-1960's, the *modules* of the late 1960's and early 1970's, and finally to *minicourses* (mid-1970's).

STAGES IN THE EVOLUTION OF THE MINICOURSE CONCEPT

1. Conventional Semester Course - Pre-1960

   A semester program of lectures, workshops and tutorials.

2. Conventional Audio-tutorial Courses
   - Early and Mid-1960's

   Lectures, workshops and tutorials of a conventional program fused into a series of audio-tutorials involving self-paced, semi-programmed learning, co-ordinated by audio-tape and designed to achieve specified behavioural objectives.

3. Sequential Modular Audio-tutorial Courses
   - Late 1960's

   Recognition that each week of a semester course designed as part of an audio-tutorial course had specifically defined objectives relatively independent of objectives to be achieved in other weeks. There was, however, some gain from week to week, each weekly unit cumulatively contributing to broad aims of the course as a whole. This led to the idea that each week's work was a separate modular entity that was a step towards the next module in the sequence.

4. Non-Sequential Modular Audio-tutorial Courses
   - Late 1960's and Early 1970's

   The next stage was to develop each unit or module so that it was virtually independent of each other unit in the course. The logical extension of this idea was to allow students to sequence the modules in ways that suited their backgrounds and interests. A further modification was to provide additional modules to allow students to select those of special interest and relevance and to avoid others, while still satisfying course requirements with regard to hours of attendance. Precise objectives achieved would vary from student to student according to selection and sequencing of modules.

5. Independent Modules - Early 1970's

Where credit points of a conventional course were
no longer of significance, or where they could be
gained by very flexible combinations of small
units, it was a logical development to offer each
module separately as a complete entity in itself
and to allow students to take any percentage of
modules offered within a particular program. At
this point the more conventional audio-tutorial
format was relaxed and modules took on a variety
of formats from simple printed materials to high-
ly complex multi-media systems. In each case,
however, emphasis was on a self-paced semi-
programmed mode of learning.

6. Minicourses - Mid-1970's

The final step in this evolution was a rethinking
about the nature of each independent unit to
still further liberalise its format. It was
recognised that with careful planning entirely
self-contained courses could be presented in mod-
ular form and that each module could have value
in its own right. It was further recognised that
self-paced learning was only one useful strategy
and that at times work in groups of various sizes
from two to forty, had educational merit and could
operate within a modular format. At this stage
the true "miniature" *course* emerged, involving
say a few days or even only a few hours of learn-
ing activity, and the minicourse was finally
evolved.

Unfortunately the literature in this area is confused
and the terms "module" and "minicourse" are often used synon-
ymously. In addition other terms such as *modular course,
audio-tutorial packet, concepts pack, unit box* and *learning
activity package* have also been used. In most cases these
terms have referred to some form of Stage 5 above - the in-
dependent self-paced module. This type of program has been
thoroughly described elsewhere (see especially Barrow and
Lakus, 1973; Batoff, 1974; Murray, 1971; Postlethwait and
Russell, 1971; and Verma, 1975).

To avoid further confusion in this regard the present author suggests that only two terms be used to encompass the above terminology, namely <u>module</u> and <u>minicourse</u> as defined below.

<u>Module:</u>	a self-contained semi-programmed and self-paced unit of work designed to achieve highly specific objectives in a short span of time, usually of a few days or less.
<u>Minicourse:</u>	a self-contained flexible learning program for individuals or groups usually involving a variety of media and strategies and with specific objectives achievable in a short span of time usually of a few days or less.

The stress on self-pacing in the definition of a module is consistent with the historical origin of the module in the audio-tutorial. The stress on "unit" of work is consistent with the idea that a module is an exemplar of a series of activities based on similar principles. "Course" in the term "minicourse" on the other hand implies a break away from the rigidity of the self-paced format and allows course development to be as free as for any other type of course except for the constraints imposed by a severely limited time span, and the implications that this has for effective course design.

It is perhaps not insignificant that the first minicourses to meet the requirements of this definition were developed in inservice programs for teachers where there is maximum flexibility and little pressure from the need to accumulate credit points. (See especially Borg, 1973; Borg, Langer and Kelley, 1972; Mowrer, 1973; and Turney, 1973.)

In Australia under the stimulus of the Schools Commission (Karmel, 1973) there has been an extension of inservice

programs for teachers. There are attempts to redefine the role of inservice education and to diversify the types of activities available for teachers to achieve professional growth and development (Meyer, 1974). Minicourses are one of the newer approaches being introduced. In New South Wales the first institutions to adopt this model for inservice educators was the Centre for Advancement of Teaching (C.A.T.) at Macquarie University (Meyer, 1975).

Since the first experimental minicourses introduced by C.A.T. in 1972, there has been a growing interest in this compact and practicable format for developing and renewing teaching skills. The Educational Resources Association of New South Wales has made extensive use of minicourses to train teachers in the selection and use of audio-visual equipment and in the production of non-print resources (Meyer, 1975). More recently the Division of Services of the New South Wales Department of Education has devised a series of minicourses on aspects of various curricula, notably Science for the School Certificate (New South Wales Department of Education, 1974). The characteristics of minicourses offered by C.A.T. are described and discussed below.

TEN CHARACTERISTICS OF A C.A.T. MINICOURSE

1. Meeting a Need

    Each course is designed to meet a definite need. This often arises from one or more of the following situations.

    i. The introduction of a new technology such as closed circuit television, an audio network or an overhead projectual system creates a demand for assistance in the use of the new resource.

    ii. Those new to teaching at a particular level (e.g. when transferring from infants teaching to lecturing in a program of teacher education) frequently request some help in the necessary re-orientation.

iii. Official changes in syllabuses or curricula
usually bring highly specific problems that can
often be solved by training in specific skills
provided by a particular minicourse.

iv. Policy changes of an institution or school system
may require new skills in small group work,
assessment, team teaching, or open plan teaching.
New skills may be required for the selection and
use of resources or for converting a school book
collection into a media resource centre.

v. With an increasing interest in decentralised pro-
grams, teachers at all levels are becoming more
interested in producing their own learning re-
sources and are seeking help in producing slide
sets; movies, audio and video programs, and
other materials.

2. Specific Objectives

Since time for each course is limited to only eight
hours, the statement of course objectives is critical.
General objectives and specific behavioural objectives
must be clearly stated and must be achievable in the lim-
ited time available. The objectives for C.A.T. Minicourse
No. 18 on making and using 35mm slides, for example, do
not include acquisition of advanced photographic skills
and relate mainly to the conceptual development of the
concepts to be conveyed by the slide set. The objectives
of this particular minicourse are given below, the spec-
ific objectives clearly listing the skills to be acquired.

MINICOURSE No. 18

Making and Using 35mm Slides for University
and College Classes

General Objectives

1. To increase awareness of the need to develop
a production plan for a set of 35mm slides.

2. To provide information on the steps in the
production of a slide set.

3. To develop appropriate skills for specifying the objectives and content of a slide set.

4. To develop basic skills for producing a slide set.

5. To appreciate the importance of effective evaluation of slide materials.

Specific Objectives

At the conclusion of this minicourse, those attending will be able to --

1. Prepare general specifications for a set of 35mm slides.

2. Use a planning board to prepare detailed specifications for individual slides and for sequencing slides.

3. Prepare instructions for artists and photographers involved in the production of a slide set.

4. Supervise first drafts of artwork for a selected slide.

5. Use the Kodak Ektagraphic Visual Maker to copy illustrations from books.

6. Prepare the script for an audio commentary for selected slides.

7. Make an audio recording commenting on selected slides.

8. Evaluate the effectiveness of slide materials.

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3. Self Contained

This aspect has both its weakness and its strength. The obvious weakness is that no single minicourse can

build on concepts or skills developed in other courses.
This lack of cumulative gain makes the format unsuitable
for the achievement of certain types of objectives, such
as establishing elaborate learning hierarchies. On the
other hand the separate identity of each course makes it
possible for a teacher to select only those courses
immediately relevant to his needs and to sequence them in
any preferred order. An important aspect is that those
attending any given course are confident that they will
not be disadvantaged by not attending other courses be-
cause training always starts from first principles.

4. <u>Short Duration</u>

A minicourse by definition should involve no more
than one day of intensive learning effort - at C.A.T. we
have found the optimum period to be eight hours broken
into two evenings of four hours each. With careful
structuring involving much pre-planning, a great deal can
be achieved in this time - more, in fact, than in a pro-
gram of, say, one hour per week for eight weeks. This is
because one activity can grade into another and progress
is rapid. Teachers welcome this type of program because
it need not involve more than two evenings and because
it does not interfere significantly with school work or
with precious and hard-won time for personal and family
life.

5. <u>Skills Orientation</u>

The short duration and lack of any defined cumulative
gain from course to course makes the minicourse format
especially suitable for acquiring certain professional
teaching skills. These include such highly specific
skills as encouraging students to participate in small
group work; classroom questioning; production of trans-
parencies for the overhead projector; or designing an
assessment program. Teachers especially welcome this
specific "skills" approach, as they can take from the
series just those elements required to close gaps in
their training or background, or to meet specific needs
that may arise from time to time. The courses therefore
are usually "fail-safe" in that they can hardly be any-
thing but relevant to the needs of those attending.

6.   Wide Participation

An important feature of the C.A.T. minicourses is attendance by participants with widely differing back-grounds.   At present, we have two series of courses: Series I for teachers in tertiary institutions, and Series II for teachers in primary and secondary schools. The tertiary series is attended by staff from universit-ies; teacher education institutions and other types of colleges of advanced education; from technical colleges; and from training units of industry and the armed serv-ices.   All types of disciplines are represented, from art to zoology.   The series for school teachers is attended by staff from preschool to secondary school and represents all types of specialty, including remedial education and counselling.   The fact that any one course can attract such a wide representation is indicative of its stress on centrally important and widely applicable professional skills.   The broad representation is vitally important in that problems can often be solved by compar-ing experience from different settings.   The meeting to-gether of teachers from institutions with very different backgrounds and purposes is usually greatly appreciated by those attending.

7.   Varied Learning Activities and Diverse Ways of
     Introducing Ideas

A key feature of a minicourse is the recognition by course planners that formal courses consisting mainly of passive listening to lectures are not acceptable to the majority of teachers.   Interest depends on activity and on the recognition that participants have much if not more to contribute than to receive.   Each course is structured, therefore, to provide opportunity for input by participants based on their background and experience. Within each course, a wide variety of strategies is em-ployed, each course using those strategies most appropri-ate for the achievement of its objectives.   Each course is limited to forty participants, and a change of pace is introduced by grouping and regrouping into various size units for different purposes (Haysom and Sutton, 1974).   The following table lists some of the learning situations that have been found to be appropriate for C.A.T. minicourses.

LIST OF LEARNING EXPERIENCES APPROPRIATE FOR MINICOURSES

Study of Materials Sent Before Course Begins

Succinct printed notes

Short booklets - heavily illustrated or semi-programmed

Short audio programs

Simple pre-assignments

Lecturettes

Expository

Problem Solving

Motivational

Group Work

"Buzz" groups or "horseshoe" groups

Document analysis groups

Syndicates

Brainstorming sessions

Self-assessing groups

Modified T-groups

Case study groups

Displays

of resources

of techniques

of the products of group work

Workshops

Analytical - examining concepts, equipment, resources

Synthetic - building ideas, making resources,
designing tests, developing teaching
programs

Individualised Instruction

>   Programmed instruction - limited use

>   Audio-tutorial   - limited use

Excursions and Visits

>   Visits to locations on campus - limited use

>   Short excursions to field sites or institutions -
>   very limited use

Use of Simulation Methods

>   Role playing

>   "In-basket" methods

>   Simulation games

Evaluation Methods

>   Self-evaluation techniques

>   Methods of evaluating ideas and resources

Almost all C.A.T. minicourses present information through
a variety of media, and of these media the participants them-
selves are of paramount significance since contributions based
on personal background and experience are an essential feature.
This input is reinforced and enhanced by using video-replay
techniques perhaps involving some modified form of micro-
teaching.   Further input is from printed materials; slides;
movie films; video programs; slide-tape presentations; audio-
programs; photographs; models; working displays of equipment
and apparatus; and other devices including "props" for various
simulation games.

The wide variety of strategies and media implies a great
deal of structuring, as is shown by the following typical pro-
gram - in this case for Minicourse No. 17 on the "Overhead
Projector in Tertiary Education"..

PROGRAM OF A TYPICAL C.A.T. MINI-COURSE

Nº 17 : The Overhead Projector in Tertiary Education

PROGRAM HOURS 1 TO 4

Topic	Numbers	Hour	Type of Activity
Techniques for the OHP	40	0	Orientation Talk
	7		Syndicates Inspect Displays
Transparencies from Originals	40	1	Copying Demonstration
ONE HOUR RECESS		2	
Transparencies in Teaching Situations	7		Syndicate Discussions
Summary of Findings	7		Production of Chart
Synthesis of Techniques	40	3	Lecture Demonstration
Orientation for Next Day	40		Short Talk
		4	

PROGRAM HOURS 5 TO 8

Topic	Numbers	Hour	Type of Activity
Orientation	40	4	Short Talk
Preparing Specifications	1-2		Planning Questions
Developing a Transparency	1-2	5	Practical Workshop
ONE HOUR RECESS		6	
continued	1-2		Practical Workshop
Evaluating Transparencies	40	7	Individual Presentations
Course Evaluation	1		Questionnaire
END OF COURSE		8	

17

8. Emphasis on Creative Activity

While a high degree of structuring is necessary and may possibly be regarded as a weakness in the minicourse format, it does allow compression of extended practical experience and of numerous concepts into the eight hours of the course. The structuring is accepted by participants for that reason. It is also possible to build in "open ended" activities within the structure that satisfy the independent participant who may wish to pursue his own version of the objectives. While each course is carefully structured, there is always opportunity for creative activity. In fact, the entire emphasis is on activity, usually through individual or group work. The activity, however, is not only devised to satisfy learning theory, but to provide training in an operational skill and, on occasion, to allow those attending to produce something of direct use, such as an objective test, a slide set, overhead projectual, or script for an audio program. Participants are thus frequently challenged to produce something of creative value and of practical use in their current program of teaching.

9. Evaluation

In order for minicourse organisers to modify each program and so make it more effective in meeting the needs of participants, some feedback is sought. This is achieved by requiring those present to spend five or ten minutes answering a short standardised questionnaire. This asks the following questions:

Do you feel that you have benefited professionally from this minicourse? In what ways?

Do you feel that your teaching will be influenced by your participation in this minicourse? In what ways?

What aspects of this minicourse did you find most helpful?

Have you any suggestions for improving this minicourse?

While it is envisaged that such a superficial "on-the-spot" technique cannot be expected to provide much evidence about the effectiveness of the course, it has helped in the restructuring and refinement of certain aspects of the program.

10. Follow-up

A follow-up consultancy service is available for all participants who may need to seek·further help and·advice on any aspect arising from any minicourse. Stress is placed on trying to help solve problems associated with applying new understandings, skills, and values to practical teaching situations.

THE CURRENT
PROGRAM OF C.A.T. MINI—COURSES
(JUNE 1975)

Each year, the program of minicourses changes with changing needs. However, more popular courses are repeated while ever there is a demand. This aspect of the minicourse program is a cogent argument in its favour. Minicourses form a totally flexible program that can be revised piecemeal. In addition, because each course is a self-contained module, it can be "stored", "transferred" to other institutions, or "repeated" with minimum difficulty.

Minicourses have been offered by C.A.T. only since 1972, and the tertiary series was introduced for the first time in 1974. There are, however, already over 30 minicourses in the current repertoire. These are listed below.

TITLES OF C.A.T. MINI—COURSES
(JUNE 1975)

Series I for Tertiary Education	Series II for Primary and Secondary School Teachers
14 Behavioural Objectives in Tertiary Teaching	01 Laboratory Techniques
15 Small Group Teaching at Tertiary Level	02 A Multi-Media Approach to Selected Topics in Junior Science

The program is clearly successful in terms of demand by the educational community. Almost all courses have been filled, and many have waiting lists. Demand, however, is not a sufficient measure of effectiveness. As C.A.T. will, of necessity, be giving much more of its future resources to this type of program, the question arises - how should the effectiveness of the program be evaluated? This problem is discussed in the last section of the paper, but first some account follows of the steps in the development of a C.A.T. minicourse.

STEPS IN THE DEVELOPMENT OF A MINI-COURSE

A minicourse is essentially a self-contained mini-curriculum, and therefore the steps in production are essentially a miniaturised version of the classical steps of curriculum development. Each step, however, has special features determined by the constraints of the minicourse format. These are tabulated below.

Steps in the Development of a Minicourse	
Classical Step in Curriculum Development	Special Aspects of Minicourse Development
1. Determination of need	- Wherever possible, the need should be related to increasing alternatives available to teachers. It should be possible to see that meeting the need will improve the quality of both teaching and learning. In general the need should be related to the development of specific professional skills.
2. Formulation of aim	- The aim must be very specific and clearly relate to the need.

3. Formulation of objectives
   - The objectives must be expressed in both general and specific terms and be behaviourally orientated. They must be achievable in the time available - for a C.A.T. minicourse in no more than eight hours.

4. Survey of available resources (including media) and of possible strategies
   - Because of the high degree of compression, the resources and strategies must be as varied as possible to achieve maximum interest and to maintain a rapid pace. They must also be practicable in relation to the strictly limited time available.

5. Selection and sequencing of strategies and resources (including media)
   - Considerable care must be taken to select those strategies and media that are most appropriate for the objectives. In a minicourse there is no room for error in this regard, as every minute is needed to achieve the objectives and cannot be spent on non-productive sequences.

6. Development of learning materials
   - Great care must be taken to ensure that instructions are clear and that the activities can be reasonably achieved in the time available.

7. First trialling
   - Trialling in the usual sense of the term is usually not possible in the minicourse situation because the "students" come voluntarily and from widely varying institutions, and each "trial" would be with a different group. The first time the course is presented is its "trial".

8. Formative evaluation (at each step 2 to 7)
   - This can be achieved only by reflective evaluation at all stages of development and by repeating the course, changing aspects as feedback is directly obtained from participants.

9. Modification of objectives and strategies
   - It is necessary to repeat a minicourse sufficiently often to locate weaknesses and to modify aspects

before any "final" version can be
produced.

10. Further develop-   — This is unlikely to be easily
    ment of curriculum   achieved until the course has been
    including "final"   repeated several times. Materials·
    versions of   must remain in "trial" form for at
    learning materials   least two years. The modular nature
                            of the program, however, requires a
                            stable format as soon as all necess-
                            ary feedback has been obtained.

11. Summative   — This is difficult because the ultim-
    evaluation   ate change to be evaluated is in the
                         quality of pupils' learning. This
                         involves two levels of multi-variant
                         analysis. The problem of evaluation
                         is discussed in some detail in the
                         next section.

PROBLEMS OF EVALUATING
THE EFFECTIVENESS OF A MINI-COURSE

As previously discussed, a minicourse can be considered
to be a mini-curriculum. At least in theory it should there-
fore be capable of evaluation in much the same way as a curr-
iculum for schools is evaluated. There are, however, special
problems. In the first place formative evaluation of trial
versions of a minicourse is more difficult because each course
is only an optional unit in a variable program involving other
minicourses. Each teacher, therefore, has experienced a diff-
erent "set" of minicourses. While each course is "self con-
tained" it would be expected that there would be some influence
of one on another. Secondly, school curricula are concerned
with a direct product, namely changes in the behaviour of
pupils consistent with the objectives of the school curriculum.
In the case of a minicourse, the product is indirect in that
we must first bring about changes in teachers. These are in-

effective unless they bring about desirable changes in the
learning of children. In such cases it is very difficult to
separate out and evaluate each indirect factor including mini-
course training that has influenced pupils' learning. This
raises the third difficulty. It is not possible to formulate
useful objectives for a minicourse for teachers in terms of
behavioural changes in *pupils* because causal relation between
any change of behaviour in the teacher and a corresponding
"one-for-one" change in behaviour of a pupil would be imposs-
ible to establish. If we cannot formulate such objectives we
cannot evaluate the program in terms of pupil behaviour. We
must be satisfied with evaluation of an intermediate product
rather than the final product. A fourth difficulty lies in
the fact that because each minicourse is part of a complex
set of highly variable inservice activities experienced by
teachers in different schools in different areas, it is diff-
icult to establish unequivocally just which inservice experi-
ence, if any, has altered the behaviour of a given teacher.
In summary, the "curriculum" of the continuing education of a
teacher is much more varied and less controlled than the
curriculum of a school pupil and the real product of the
"curriculum", namely changed behaviour of pupils, is difficult
to measure because it is indirect.

Something nevertheless can be done. While the classical
methods of curriculum evaluation help in some respects, they
do have to be modified to fit the particular case of the mini-
course.

The following discussion sets out a possible model.

The evaluation of any activity or unit within a program
of continuing education of teachers might be considered at
five levels.

Level I   - Evaluation of inherent features or
             characteristics of the activity.

Level II   - Evaluation of the effectiveness of the
             activity as a process.

Level III - Evaluation of the effectiveness of an
             intermediate product of the activity -
             namely of the changes in behaviour of
             teachers resulting from their having
             experienced the inservice activity.

Level IV - Evaluation of the effectiveness of the
final product of the activity - namely
of the changes in the learning achieve-
ments of pupils resulting from changes
in the behaviour of teachers that have
come about from their having experienced
the inservice activity.

Level V - Evaluation of the effectiveness of an
overall inservice program for a total
educational system and of the contribu-
tion of each separate inservice activity
to that total system.

These five levels of evaluation apply to the minicourse
and the following discussion briefly considers each level.

Level I - Inherent Characteristics

This is relatively straightforward as it is possible to
establish objective criteria for evaluating the internal
characteristics of a given minicourse. The following criteria
are suggested as a useful starting point.

1. Does the course meet a real need related to the
   professional development of teachers?

2. Are the objectives suitable and appropriate -
   will they satisfy the determined need?

3. Have the objectives been expressed in clear,
   unambiguous behavioural terms?

4. Can the objectives be realistically achieved
   in the time (say eight hours) available to
   participants?

5. Is the level of treatment suitable for the
   category of teachers concerned?

6. Are the learning activities arranged in a
   logical sequence that holds together as a
   coherent whole?

7. Are all activities practicable in all reason-
   able situations likely to be encountered by

those implementing the course?

8. Are the strategies chosen appropriate for
the objectives to be achieved?

9. Is the relationship between each activity,
and the media used for that activity,
always appropriate?

10. Are the activities and groupings of particip-
ants sufficiently varied to maintain maximum
interest?

11. Is the relative timing of the various activ-
ities satisfactory, e.g., is the rate of
change of activity (a) practicable, and
(b) paced so as to maintain maximum interest
and involvement?

12. Is there sufficient emphasis on activity and
participation?

13. Is there provision for obtaining some kind
of feedback or on-the-spot evaluation?

14. Is there some provision for reasonable follow-up?

15. Is the organisation of the minicourse in the
form of a coherent module that is portable
in the sense of easy "storage", "repetition"
or "transfer" from institution to institution?

A 4-point rating scale on each criteria from "4 - Very
satisfactory" to "1 - Generally unsatisfactory" can be used
to establish a useful evaluative profile for a given mini-
course. Such evaluation of course begs the central question
of whether or not the objectives, if achieved, will bring
about desirable changes in the behaviour of teachers, which
in turn will effect desirable changes in the learning achieve-
ments of pupils.

Level II - Effectiveness of the Minicourse at the Level of
          Process

In this case evaluation is mainly in terms of effective-

ness of the administration. Answers can be obtained to questions such as the following.

1. How widely are the courses known by teachers who could be reasonably expected to attend?

2. What is the demand for each minicourse?

3. What numbers of teachers of various categories have attended each minicourse?

4. What are the attitudes of teachers to such questions as:

    (i) access to the minicourses

    (ii) quality of training

    (iii) relevance, suitability and level.

5. What are the attitudes of school principals, inspectors and other administrators to the minicourses?

6. What is the cost of each minicourse?

7. What is the extent of parental knowledge of and community reaction to the program?

These and similar questions can provide valuable data but also side-step the main question of product effectiveness.

Level III - Evaluation of the Effectiveness of a Minicourse in Changing the Behaviour of a Teacher

While there are special difficulties in isolating the causes of change in the behaviour of a teacher undertaking a multiplicity of inservice activities, Level III evaluation can be validly undertaken provided the objectives of the minicourse are (i) intended to develop a skill that is totally lacking or previously developed to only a low level, and (ii) not concurrently offered in any other way reasonably available to the teachers concerned. Provided these criteria are met then standard methods of curriculum evaluation such as questionnaires, interviews and observations of teaching

behaviour can obtain reliable results. In cases where the
objectives are not unique or the skills of participants are
already fairly well developed, the only recourse is to rely
on the subjective opinions of the teachers concerned. This,
however, should not be under-rated as a source of evidence.
Experienced teachers are usually very sensitive to such mat-
ters and could be reasonably expected to rank those factors
influencing a change in their teaching behaviour with some
degree of validity.

Level III evaluates only an intermediate product.
Obviously, however, this intermediate product is important
because changes in the behaviour of teachers can be signific-
ant factors in changing the behaviour of pupils.

Level IV - Evaluation of the Effectiveness of a Minicourse in Improving the Quality of Pupils' Learning through Changing the Behaviour of Teachers

The multivariant nature of factors involved both at the
level of the pupil and the level of the teacher, would make
it difficult to undertake more than the following:

1. Collection of data about the changes in achieve-
   ment of pupils over a given period.

2. Collection of data on the changes in behaviour
   of teachers of those pupils over the same period.

3. Collection of data on the objectives of any
   inservice experiences, including attendance at
   minicourses, undertaken by teachers of those
   pupils over the same period.

4. Collection of anecdotal evidence and statements
   of opinions from school principals, pupils and
   colleagues of the teachers and from the teachers
   themselves about any causal relationships that
   may exist.

This would be a major undertaking with uncertain results,
but may nevertheless be worthwhile in an attempt to establish
the value of the minicourse as a general model.

Level V - Evaluation of Minicourses as Contributing to an Overall Program of Continuing Education

The effectiveness of an overall inservice or continuing education program for teachers is difficult to assess because such a system is open-ended and can never be expected to terminate. Nevertheless, it is a system and is thus theoretically subject to the methods of evaluating any large system. Such an evaluation would involve collecting massive evidence about the objectives, strategies, constraints and outcomes of the total inservice program for an entire school system (e.g. for the New South Wales State system); identifying the network of sub-systems and their inter-relationships, and using mainly "illuminative" methods of evaluation (Parlett and King, 1971) to obtain an informed impression of the effectiveness of the total system and of each component of the system, including the role of the minicourses. So far this task has not been undertaken, to my knowledge, anywhere in the world.

In C.A.T. so far, we have been gathering data only at Levels I, II and III. While the evidence is meagre, the results are sufficiently encouraging to suggest that the minicourses are making some impact. Certainly they are popular and well liked by teachers and they seem to be reasonably effective in improving specific teaching skills. We plan to expand the program and to continue to further investigate its effectiveness.

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