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MICROTEACHING AND TEACHER EDUCATION: A CRITICAL REAPPRAISAL

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Microteaching has been suggested as a partial answer to the question 'What is teacher effectiveness?', particularly in the context of teacher education The theoretical basis of microteaching is examined, and the implications of its present behaviourist position for teacher education are discussed The suitability of microteaching as a paradigm for a teaching theory is questioned, and it is concluded that while microteaching continues to take its main impetus from techniques such as task analysis and operant conditioning, so long will it remain an unnecessarily limited response to the problems of teacher education

WHAT IS TEACHER EFFECTIVENESS?

Despite a considerable number of studies directed at identifying the determinants of teacher effectiveness, it is not yet clear which teaching skills or characteristics are of most significance, or how they interact Biddle and Ellena (10) note that the results of thousands of studies on teacher effectiveness conducted since the beginning of the twentieth century have been modest and often contradictory They conclude with the disheartening statement that 'it is not an exaggeration to say that we do not today know how to select, train for, encourage or evaluate teacher effectiveness (p vi)' The absence of a clear conception of the criteria of teacher effectiveness, and what many see as the consequent lack of even the fundamental requirements for a theory of teaching, has resulted in a variety of approaches in the education and training of student teachers McAleese and Unwin (25) remark that 'it is perhaps a truism to state that there are virtually as many systems for teaching practice in operation in the UK today as there are colleges of education and university education departments'

The paradox with which teacher educators are faced is that there is more structure and established principle in theories of learning than

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has yet emerged in theories of teaching Teaching theory has tended, therefore, to be inferred from learning theory, and, as Gage (21) remarks, teaching has all too often been regarded as simply a 'mirror image' of learning He asserts that 'theories of teaching need to develop alongside, on a more equal basis with, rather than by inference from, theories of learning (p 133)' Openshaw and Cyphert (31) summarised the position aptly when they remarked that 'there is no one accepted explanatory theory of teaching or any satisfactory set of models to conceptualise teaching and its effect upon learning (p 5)'

The traditional teacher education programme has, in the absence of a comprehensive theory of teaching, fallen back on two main elements described by Bush (14) as 'theoretical discussions followed with trial by fire' Theoretical lectures in the average training course deal with the philosophical, historical and psychological foundations of education These are often abstract and divorced from the realities of classroom experience As Perlberg (33) remarks, they 'effect cognitive and attitudinal rather than behavioural changes' Teaching practice, the trial by fire' element mentioned by Bush, has, in the absence of any clear directives from theory or methods lectures, tended to rely on the procedures described by Stolurow (41) as 'modelling the master teacher, rather than mastering the teaching model' In this system, student teachers are assigned to practice schools near the training institute or university All too often the student's inexperience and anxiety, coupled with his inability to translate theoretical precepts into practice, may cause him to take as his model the teacher to whose class he is assigned irrespective of the qualities of that teacher, or alternatively, to model his performance on recollections of dominant teacher-figures from his own schooldays Supervision of the student's teaching practice is often haphazard and undiscriminating Feedback regarding the student's performance may be, when it is given, subjective and impressionistic As Allen and Eve (2) remark 'teachers have no real basis for perceiving, let alone changing, ineffective teaching behaviours'

Stones and Morris (42) have recently completed a survey of the criteria and procedures used in evaluating students on teaching practice in colleges and universities in England and Wales Their conclusions indicate that there is not uniformity among institutions in the distribution of marks for teaching practice, the use of profiles, or the use of external evidence The criteria used in assessment have no conceptual coherence and may include such specialised criteria as the student's

use of audio-visual aids, or such concerns as the acceptability of his appearance and dress Very little attention is paid to how much the children actually learn from students, and even less to students' ability to evaluate what the children have learned Twenty-five per cent of the colleges surveyed did not inform students of the criteria on which their assessment was to be based Stones and Morris summarise their findings thus

> A reasonable conclusion, based on this survey of criteria, seems to be that individual institutions are looking for, and assessing, different behaviours and qualities in their students (42, p 162)

Recognising the tenuous relationship between theory and practice in teaching studies, and the inability of traditional block teaching practice to remedy this, the recently published James Report on *Teacher education and training* remarks

> In some cases, results at least as satisfactory could be achieved by activities within the college, such as the use of microteaching techniques, work with small groups of children brought into the college for the purpose, and the critical observation of films and videotape recordings (22, p 25)

In view of this recommendation, and of the authors' observations of microteaching in a university education department, we propose to examine the contribution of microteaching to teacher training practices, and to consider its suitability as an instructional model and as a paradigm for a theory of teaching

MICROTEACHING ITS HISTORY AND DEVELOPMENT

The microteaching technique was developed at Stanford University as one part of an experimental teacher education programme supported by the Kettering and Ford Foundations This programme had as its main objective the identification of specific teaching behaviours which could be isolated as observable skills, as well as the development and testing of appraisal instruments to measure attainment of these skills The approach later became known as the 'component' or 'technical' skills approach to teacher effectiveness Acheson's simultaneous development of the possibilities of the videotape recorder, which also took place at Stanford, facilitated the identification of significant teaching skills by providing live recordings of those classroom behaviours

best illustrating them, and also made available for the first time the potential for detailed feedback in teaching practice The technique which was developed to capitalise on the results of this joint research into the behavioural components of teacher effectiveness was called microteaching

A microteaching session, then, may be defined as a recorded teaching encounter in which the complexities of normal teaching are minimised by reducing the number of pupils taught and the length of the lesson Subject matter content is presented in simplified concept form, as advocated by Gagne and de Cecco Here, concepts, or classes of stimuli likely to be most meaningful for particular age or ability groups of pupils, form the content of each lesson The type of concept taught is usually a 'class concept,' such as 'tree' or 'mammal' Each concept has a number of attributes, or distinctive features, and those concepts with a large number of attributes are considered to be the most difficult to learn De Cecco (16) suggests that the teacher should therefore reduce the number of attributes by igoring some and emphasising the most important, or by reducing them to patterns

A further reduction of complexity is achieved by having the student-teacher practise only one teaching skill at a time Each skill is divided into a set of sub-skills For instance, the skill 'gaining pupil participation' is considered to have three sub-components These are 'set induction' (opening the lesson with interesting initiating activities or by using novel frames of reference), 'stimulus variation' (the use of varying patterns of teacher animation and classroom interaction) and 'achieving closure' (ending the lesson with activities designed to provide pupils with a frame of reference by which they may organise and retain the main concept presented) The categories given above are those described by Berliner (9) as being in use at Stanford, but other institutions classify skills and sub-skills differently

The basic microteaching pattern thus consists of the practice by the student teacher of single clearly defined teaching skills, in a series of carefully planned encounters lasting five to ten minutes, with a group of between three and ten pupils Each episode is videotaped, and may subsequently be viewed by the student teacher Opportunities are thus provided for immediate diagnostic evaluation of the student teacher's performance The student teacher himself, his peers, his supervisor, or even his pupils, may rate this performance on specially developed 'skills appraisal guides' (see fig 1) The student teacher then replans his lesson in the light of this feedback and may reteach it to another group of pupils

The sequence of teach/critique/reteach is the classical microteaching pattern evolved at Stanford University, but variations may occur Microteaching programmes may be linear or branching, and may utilise immediate or deferred reteach sessions Figure 2 illustrates a possible variation on the Stanford pattern Affinities with programmed learning may be noted (25) In the linear microteaching programme reliance is placed mainly on the critique and review sessions to ensure that a student has successfully assimilated a particular teaching skill, whereas remedial sequences are built into the branching programme so that a student must master each individual skill in the microteaching setting before proceeding to the next

From its inception, therefore, microteaching has been closely associated with two fundamental elements of behavioural learning theory programmed instruction and task analysis (9) Task analysis is the process by which skills unrelated to performance efficiency are eliminated and 'criterion behaviours' which optimise efficiency are identified The 'component skills' practised in microteaching are seen as the criterion behaviours of the teaching task

The microteaching approach to the problem of teacher effectiveness may be said to be based upon the Skinnerian premise that

> if detailed sequences of sub-behaviours for teaching can be accomplished, and certain technical skills evaluated, it is logical to assume that student teachers can analyse these behaviours and incorporate them into their teaching repertoire (7)

The problem of teacher effectiveness is thus seen as a behavioural problem, and as one amenable to operational analysis within the controlled environment of the microteaching laboratory

THE MICROTEACHING CYCLE ORGANISATION AND RATIONALE

The basis premise of microteaching is that much of teaching consists of acts or behaviours, and the main aim of microteaching is to isolate these behaviours and teach student teachers to implement them In those colleges and university departments of education to which microteaching has been introduced, notably Ulster, Exeter, Sussex and Stirling, a general pattern has emerged Models of specific teaching skills such as 'pupil reinforcement' or the use of 'non-verbal cues' are introduced to student teachers in methods lectures These models may take the

form of videotape recordings of the requisite teaching behaviours, role-playing enactments, or written or spoken descriptions The psychological rationale for the skill in question and its behavioural sub-components is then discussed For example, the skills covered in the sequence 'pupil reinforcement' are based, according to Borg, Kelley, Langer and Gall (12) 'upon the large amount of research regarding such factors as the effect of various amounts and kinds of reinforcers and their timing, scheduling and presentation (p 209)' Discrimination training in the identification of the skill and its behavioural sub-components may be provided for the student teachers at this stage, in the form of practice in the use of skills appraisal guides, or by a supervisor's pointing out relevant aspects of the behaviours modelled

Each student may then proceed to a tutorial with his curriculum specialist to discuss the relevance of the skill to the teaching of selected concepts within his curriculum area He then teaches his first micro-lesson, in which he attempts to approximate the modelled behaviour in a controlled classroom setting The assumption is that the scaled-down nature of the microteaching class will ensure that he encounters a minimum number of hurdles and a reduction of anxiety factors which could otherwise impede his performance

The student teacher then views his lesson on videotape, usually accompanied by a supervisor or college tutor The supervisor is responsible for providing feedback regarding the degree of correspondence between the student's performance and that of the model In theoretical terms, if the information or feedback provided is positive, it will strengthen the particular behaviour to which it is related If the feedback is negative, it will not reinforce the undesirable behaviour, which will become extinct In Skinnerian terminology

> If an operant response occurs and is followed by reinforcement, the probability of its recurring increases With non-reinforcement the tendency of the operant response to recur decreases, and it thus becomes extinct (6)

Fundamental also to this teach/critique/reteach pattern is the Skinnerian theory of 'shaping', or 'successive approximations' in acquiring new patterns of behaviour Following his critique session with a supervisor, the student incorporates suggested improvements into his lesson and reteaches it, after an interval, to a different group of pupils Thus, through successive approximations and corresponding

reinforcements, the student teacher's behaviour gradually attains the desired standard Through the acquisition of such skills the student teacher may build up a repertoire of techniques, based on the component skills of effective teaching behaviour (28)

This, then, is the organisational cycle and rationale of microteaching It is clear that the pattern through which the student teacher acquires his repertoire of teaching skills takes much of its inspiration from operant conditioning techniques

EVALUATION OF MICROTEACHING TOWARDS A REAPPRAISAL

Numerous advantages have been claimed for the microteaching approach in comparison with conventional teacher training methods Microteaching is seen as providing an opportunity to translate theory into practice in a real teaching setting (6, 12), and as establishing a neutral meeting ground for educational theorists (2) Meier (28) sees it as the basis for a sound, psychologically defensible model for teaching practice It is further claimed that emphasis on specific, rather than vague, general skills makes assessment easier and more accurate by establishing operational criteria, and that the use of the component skills approach also reduces the complexity of the teaching act for the student teacher, thus simplifying training procedures Classroom variables are controlled, it is argued, to provide constructed teaching experiences for the practice of individual skills Finally, the microteaching environment is said to provide a low anxiety situation and a consequent 'gradual non-threatening role induction' for novice teachers (36)

However as early as 1966 Allen (1) had warned of the dangers of 'treating innovations as orthodoxies' and of the necessity for a continuing reappraisal of microteaching in varying contexts and in the light of research findings In 1969, Allen and Ryan (4) agreed that the questions which had been raised by microteaching, at least up to that point in its evolution, far exceeded the answers it had been able to supply Several pertinent questions concerning the nature of microteaching and its place in teacher education were raised at the University of Massachusetts Microteaching Conference in 1969, and, more recently, at the Conference on New Learning Methods, sponsored by the Council of Europe, which took place at the University of Tubingen, West Germany, in April 1972 At these conferences a degree of dissatisfaction concerning the behaviourist structuring of

microteaching was discernible among representatives of both the American and the European traditions of education Upon investigation, the main areas of concern appear to be the derivation of the component skills and the validity of the 'fractionation' approach to teacher effectiveness advocated by microteaching, the degree of freedom the student is allowed in evolving his own particular teaching style, the use of self-confrontation as a motivating factor, the degree to which microteaching is separable from exclusively behaviourist learning theories, and the question of how far skills acquired in microteaching settings transfer to actual classroom teaching The remainder of this paper will be devoted to the clarification and discussion of these issues and their implications for the continuing role of microteaching in teacher education programmes

The component skills approach

Gage (21) suggested that

> Rather than seek criteria for the overall effectiveness of teachers in the many varied facets of their roles, we may have better success with the criteria of effectiveness in small, specifically defined aspects of the role (p 120)

Following from this position Allen (1) states that the original component skills approach to teacher effectiveness was based on the assumption that

> the identification of representative skills, and the devotion of substantial time in teacher education to these relatively narrow skills, will help teachers not only to become adept in the skills themselves, but to improve their general competence as well

However, it is suggested here that task analysis, in behavioural terms, is not an adequate procedure for analysing the effective teaching act The 'task' in teaching is not to produce skills as an end in themselves, but as a means to an end Teaching is, above all, a transactional process and the effectiveness of any individual teaching act must depend on the interaction of a variety of contingency factors such as pupil expectation and receptivity, and the cognitive complexity of the subject matter Olivero (30) although a protagonist of the component skills approach, concedes that 'since children do have different learning styles, it follows that the teacher must do whatever possible to match the instructional mode with the learning style (p 45)' Set skills which

do not take these powerful variables into account cannot, it is argued, deal effectively with the classroom dialectic

Moreover, the reasoning underlying the derivation of the component skills and the justification for the fractionation of established skills into their 'behavioural sub components' is still a mixture of research and conjecture Turney (45) remarks 'Until sufficient empirical data emerge, common sense and experience must play an important part in the selection and analysis of skills' Research to date has concentrated on the *communication* of these skills and sub-skills to student teachers in the microteaching cycle, leaving their theoretical base a largely unexamined assumption The psychological relevance of these skills, and their applicability in widely varying teaching contexts, have generally remained unquestioned

The early Stanford research tended to isolate individual skills in terms of their behavioural frequency rather than their appropriateness to any given situation and subsequently to validate them in terms of an agglomerate 'teaching theory' Hence, as Borg, Kelley, Langer and Gall (12) point out, the few highly visible teaching skills have since been reinforced in the microteaching cycle, perhaps at the expense of more subtle, more sophisticated and more personal skills Therefore, even if the validity of a component skills approach is conceded, there remains an element of doubt as to whether the behavioural analysis of the teaching act is sophisticated enough to differentiate between skills which are central and skills which are merely peripheral Fortune (18) described the research strategy and skills used at Stanford to isolate teacher behaviour as follows

> Teacher skills, logically related to specific teacher tasks, were identified, subjected to an experimental evaluation which utilised student perceptions of teaching success as a criteria (sic), and then formulated into the microteaching curriculum

Here again we see skills isolated in terms of an unspecified form of 'logic' and then subjected to post-hoc validation It would seem that purely descriptive forms of analysis are being used to justify prescriptive categories of teaching behaviour Cooper's (16) hope that 'every institution that attempts the development of specific teaching skills through microteaching will also set up experimental controls to test hypotheses regarding the skills and training protocols' remains largely unfulfilled

Style' versus skills

Related to the component skills approach is the whole question of 'teaching style' In this paper teaching style is viewed as an expression of the individual teacher's personality, a term which is taken to include such attributes as his sympathy, humour, intuition, insight, intelligence and attitudes Research, such as that of Bellack (8) and Smith and Meux (40) has indicated that ordinary classroom interaction is composed of identifiable and sophisticated patterns and cycles in which many varieties of stimulus and response are discernible As Barker (5) remarks 'Behaviour episodes do not march along single file with their accompanying inputs Rather, they go one, two, or three abreast quite irregularly'

Veldman and Peck (46) in their research on pupils' evaluation of student teachers, note that the most obvious potential sources of situational variation in the classroom are teacher personality, attitude and physical appearance The teacher's management of classroom patterns is thus a function of such individual characteristics, as well as of his repertoire of 'skills' Since expert teaching demands the 'orchestration of a variety of skills' (12), and since the interpretation of a classroom situation appears to be a function of the teacher's personality, the present emphasis on single skills rather than their interrelationships and their lack of reference to varying patterns of classroom interaction may inhibit rather than enhance the development of a personal teaching style For example, in a study conducted by Campbell (15) on the evaluation of learning principles by 'superior classroom teachers,' a teacher's automatic use of the skill 'pupil reinforcement' was viewed almost unanimously by participating teachers as being detrimental to the growth of self-understanding in some pupils, and as possibly leading to a policy of pleasing the teacher rather than self-determination on the part of the pupil The use of such unitary skills was viewed by these superior teachers as suggesting 'simple-chain' strategies that are seldom found in real classrooms, and as representing greater measures of simplicity and rigidity than they were prepared to endorse This argument is supported by the gestalt view that meaningful comprehension of any behavioural pattern takes place only when the total context (i e the entire classroom situation) is apprehended It is questionable whether any such meaningful interpretation is possible within the rather simplistic approach to teacher effectiveness currently advocated in microteaching

The concept-teaching approach

The use of the concept-teaching approach in microteaching is also in need of reappraisal, in that subject-matter content may often be the variable which will determine which set of instructional strategies a teacher will employ For example Veldman and Peck (46), who rated student teachers using a Pupil Observation Survey, found that 'the subject-matter taught had a powerful influence on scores, almost certainly more than might be due to true differences between teachers of the different subjects' In view of these findings, it is surprising that little, if any, research has been conducted on the relationship between subject matter content and particular teaching skills in microteaching and that the precise connection between the Stanford component skills and the concept teaching approach supported by such cognitive theorists as Gagne, Gage and de Cecco, has never been specified Microteaching would appear to utilise the concept approach solely in order to minimise the complexities of subject matter and simplify the student teacher's task It seems that the technical skills advocated by microteaching have been designed without any clear reference to the fuller implications of the concept teaching approach, more particularly in catering for those sophisticated sequences of appropriate experiences necessary in the teaching and learning of higher order concepts

Woodruff (47), for example, in his work on the learning and teaching of concepts, suggests that one of the primary objectives of any instructional sequence utilising a concept-teaching approach should be the teacher's use of specific teaching strategies and verbal patterns 'to stimulate the acquisition of appropriate levels of meaningfulness' by the pupil in the process of concept-formation Analyses of such teaching strategies and verbal patterns are accessible in the work of Smith and Meux (40) on the logic of the classroom, Bellack (8) on the language of the classroom, Taba (43) on teaching strategies for cognitive growth and Flanders (19) and others on classroom interaction patterns Microteaching in its present format appears to take little cognizance of this considerable body of research and its implications for the pedagogical aspects of concept acquisition

The problem of motivation

The concept of motivation is related to many complex aspects of human personality and as Peters (35) suggests, cannot be explained in terms of stimulus-response connections or behaviourist drive-reduction

theories alone The active commitment and involvement of the student teacher to the training protocols would appear to be essential to the success of any teacher education programme However, the approaches by which microteaching secures the active involvement of its students remain very much open to question Seidman (38), at the Massachusetts Conference referred to microteaching as a 'mechanistic process', and asserted that 'microteaching trains teachers to perform in ways those who are running the programme think is good' One of the points raised for discussion at the BPS conference at York in 1971 was McIntyre's (26) contention that 'it would be difficult to find a method of teaching in which less emphasis is placed on the student's formulations of his own problems, questions and objectives ' In order to motivate the student to modify his behaviour in the directions suggested by the training schedules in microteaching, the Skinnerian theory of successive approximations has been complemented by Festinger's dissonance theory It is argued that the videotape recorder, by placing models of ideal teaching episodes in juxtaposition to videotapes of the actual classroom performance of the student teacher, may establish a measure of cognitive and affective dissonance between the student's self-perception and the ideal presented to him, thus inducing him to modify his behaviour in the direction of the model Indeed, it has been shown that, within the set patterns defined by microteaching, the provision of a model is the single most influential motivating factor in effecting behavioural change (37) The model is therefore viewed as the expected standard of behaviour which must replace a student's predispositions, and be seen to do so, in order that a behavioural change takes place Tuckman, McCall and Hyman (44) found that the behaviour and self perception of teachers could be changed 'by invoking a discrepancy between a teacher's observed and his own self-perception of his behaviour, and by then making him aware of this discrepancy by verbal feedback '

However, Perlberg (33) places a strong emphasis on those feelings and attitudes of student teachers which should be taken into account in any microteaching programme which includes such self-confrontation techniques Some of these are 'feelings about one's own limitations, the need to be liked, to be approved of by one's peers, feelings of inferiority, feelings of insecurity, paranoid tendencies suspicion and fear of pupils '

Where unqualified adherence to the theories of dissonance and operant conditioning preclude some preparation dealing with these sensitive

areas, self-viewing can be a traumatic and destructive experience Neilsen (29), for example, reported extreme emotionality, rejection and evasion of information received during self-viewing It is clear, therefore, that if microteaching is to prove effective in motivating student teachers towards involvement and self analysis it must take more account of the students' own needs and predispositions, and place less emphasis on extrinsic motivation techniques

Theory into practice from lecture theatre to microteaching laboratory

One of the major claims for microteaching has been that through this approach student teachers can translate educational theory, acquired in lectures, into practice in a teaching situation Smith (39) claims that microteaching provides a unique controlled environment for 'situational teaching of theoretical knowledge' The protagonists of microteaching never, however, specify which theories, whether pedagogical or learning, they have in mind The microteaching procedure is, as we have seen, based on a behaviourist view of learning, and behaviourist techniques are used in the training of the student teachers There appears to be an underlying assumption however, that the microteaching approach involves a coherent *pedagogical* theory also, and it is this theory which the students are supposed to be putting into practice when they teach their microlessons The pedagogical theory which, in the absence of any other, it is assumed the students are translating into practical terms must be presumed to be that 'theory' which underlies the derivation of the component skills These are after all the only behaviours the students are being trained to implement However, sufficient doubt has been cast upon the derivation of the component skills to suggest that this tacit assumption should be treated with reserve

In view of the lack of theory underlying the derivation of the component skills and their lack of reference to the conceptual structure of curriculum content or the strategies by which such concepts may be effectively taught, it is not surprising that Perrot (34) identified as the main weaknesses in the microteaching programme at Stirling University 'the inadequate establishment of the relation between the (component) skills and the psychological theory, and the lack of value most students find in curriculum seminars' McIntyre and Duthie (27) also comment on the lack of balance between curriculum content and the com-

ponent skills and on students' dissatisfaction with the lack of connection between psychological theory and the skills In summary, it is argued that the task analysis and fractionation techniques by which the component skills of microteaching are derived are no substitute for a teaching theory, and it is questionable whether student teachers are translating pedagogical theory into practice within the microteaching format

From microteaching laboratory to classroom

There is no clear evidence as yet that skills learned during microteaching sessions do transfer to actual schools practice or are retained in the face of the complexities of the real classroom situation Despite the claims made concerning the superiority of microteaching over conventional methods of teacher training, Kallenbach and Gall (23) found no difference in terms of teacher effectiveness between two groups of students, one trained in the conventional manner and one trained through microteaching The lack of difference was still in evidence one year later These findings contradict Allen and Fortune's earlier study of 1966 (3) where students trained through microteaching techniques made significant gains over those trained in the conventional manner on several specific teaching skills Kallenbach and Gall, however, expressed reservations concerning the research design used by Allen and Fortune in that it used a highly selected group of student teachers and established post-training competence in teaching by performance in a microteaching situation only, and not in an actual classroom setting

Berliner (9) summarises the position as follows

> Investigators still need to examine the nature of transfer Situational cues which through training may elicit desired teaching behaviours in microteaching, may not be present in real school settings, and transfer of training may not occur Through concern for reducing the complexity of the classroom a situation yielding little transfer effect to the classroom may have been produced (p 50)

Bartley (6) suggests that a prerequisite for successful transfer is a thorough understanding, on the part of the student teacher, of the training materials Enough has already been said to suggest that, in the absence of a sound theoretical basis for the skills taught in micro-

teaching, student teachers may find it difficult to grasp their significance and apply them intelligently in a microteaching setting. It is further suggested that the occurrence of effective internalisation and consequent successful transfer of the skills to actual classroom teaching may also be unlikely.

Osgood (32) suggests that 'task similarity', that is, the similarity of stimulus-response relationships between the old and the new situations, is a further condition for maximum positive transfer. In other words, transfer will be greatest when the training conditions, i.e. microteaching, are highly similar to the 'transfer task', i.e., actual classroom teaching. The question here is: how similar is microteaching to the real classroom situation? Allen and Ryan have consistently asserted that microteaching is *real* teaching. This view is reiterated in a recent selection of papers published by Cooper (17) when he defines microteaching as 'a teaching situation which is scaled down in terms of time and number of students, but which is not synonymous with simulation, as the teachers, students, and lesson are all "real".' McAleese and Unwin (25), however, unequivocally base their interpretation of microteaching on two concepts—simulation and sensitisation. Perlberg (33) also states that microteaching contains elements of simulation, and holds that 'although it is not a substitute for the real classroom experience, it is the next best approximation of this reality.' Bjerstedt (11) takes the middle road when he views microteaching as 'structured realism', and therefore more 'pedagogically effective' than the real classroom. 'The realistic situation can, for example, have such a low degree of structuring that its information per time unit is very small.'

It is clear from these diverse viewpoints that there is an urgent need to decide which aspects of microteaching involve simulation. Where ambiguity exists on this issue, unanticipated or indeed undesirable consequences may ensue. For example, Lefcourt (24) found that 'if students feel that microteaching or VTR feedback is artificial, contrived or manipulative, they are less likely to discriminate, recall and evaluate much decision-relevant information.'

It may be remarked here that one looks in vain to the literature on microteaching for any suggestion of *progression*, either in terms of skill-sophistication, subject-matter complexity, increases in the length of lessons or the number of pupils to be taught—any suggestion of gradated approximations to the complexities of live classroom settings. This lack of developmental sequence may underpin many of the contradictory

interpretations outlined above as to whether microteaching is or is not a simulation of classroom teaching

CONCLUSION

Microteaching has been presented as providing a possible answer to the question 'What is teacher effectiveness?' It has also been suggested as a paradigm for a theory of teaching In this paper the history and development of microteaching have been examined and the basic microteaching cycle described in terms of its psychological rationale This is seen to be behavioural in orientation, and the protagonists of microteaching see the problem of teacher effectiveness as one amenable to operational analysis within a microteaching setting

The authors express reservations concerning several basic tenets of the microteaching approach, notably the ad hoc nature of the derivation of microteaching 'skills', the inadequacy of these skills in contributing to the evolution of a personal teaching style, and their seeming irrelevance to meaningful patterns of classroom interaction and the needs of the pupils It is suggested that there is a basic contradiction between the use of a concept-teaching approach and the component skills approach in microlessons, particularly in the teaching of higher order concepts It is noted that microteaching tends to be manipulative and impersonal in approach and the use of dissonance as a motivating technique is questioned Claims that microteaching translates educational theory into practice and that skills acquired through microteaching transfer to actual classroom settings are critically examined Ambiguities as to whether microteaching is or is not simulation are seen to underlie many of the contradictions inherent in the technique

In summation, it may be said that while microteaching derives its main impetus from behaviourist theories such as task analysis and Skinnerian patterns of operant conditioning, vast areas of information relevant to a theory of teaching are excluded, and student teachers may continue to be processed in the acquisition of relatively unimportant teaching skills perhaps at the expense of developing personal and more meaningful styles of classroom interaction An instructional model a paradigm for a theory of teaching, is still needed

The microteaching technique, as opposed to the microteaching theorem, could go some way towards developing such a model, by supplying a controlled environment in which the process variables of the

classroom might be examined. Brown (13) suggests that the technique can be used to test hypotheses empirically at various levels of classroom complexity. Current macroanalytical teaching models such as those of Flanders, Bellack, Taba, Smith and Meux and Woodruff, mentioned previously, as well as those of Gallagher and Aschner, Denny, Gage and Stones, could in this way be subjected to a much needed micro-analysis within the microteaching laboratory. These models have been successful in delineating selected though sometimes narrowly defined facets of the classroom situation, and some of them tend to be atheoretical. Such an examination might provide a more complete understanding of classroom teaching patterns and more convincing referents for the development of a theory of teaching than can result from the current rather narrowly behaviourist standpoint adopted by microteaching. It could also have implications for the development of more relevant content and approaches in programmes of teacher education.

FIGURE 1

TEACHER LIVELINESS APPRAISAL GUIDE

Name..... Curric. Area ..... School Pupils .....

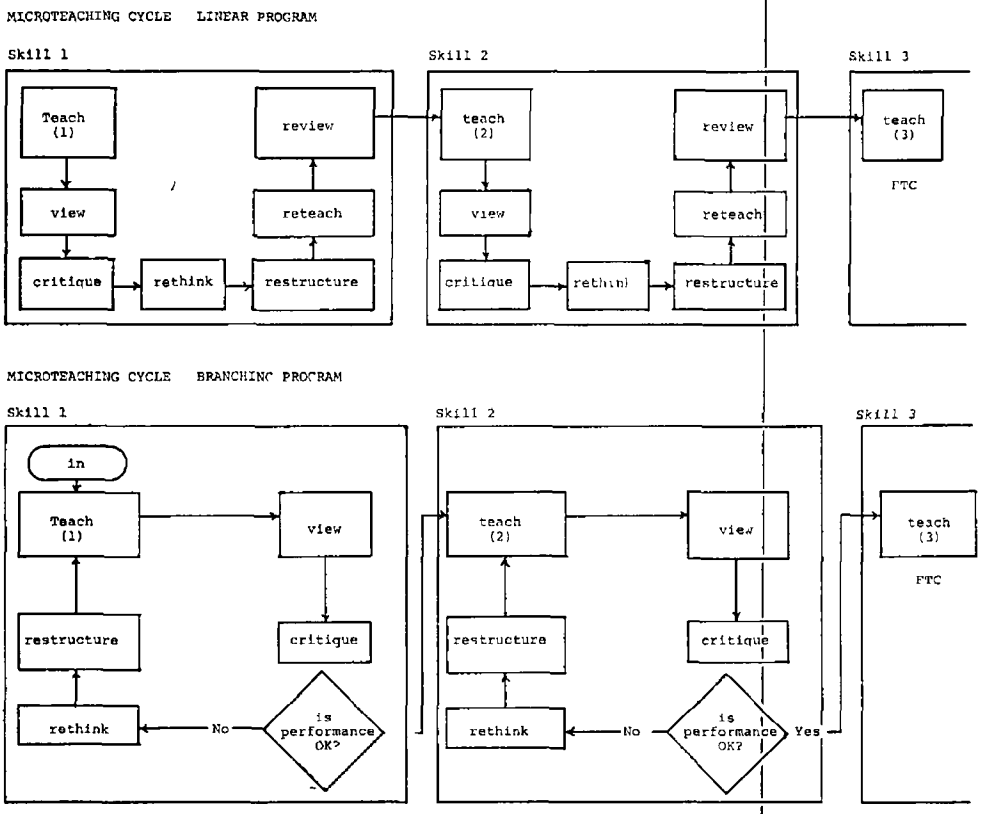
Date .....Microteaching Supervisor .....

Please read the guide before you teach the microlesson and look through it whilst you are viewing the teaching-session.

1.	*Teacher Movements* At appropriate points in the lesson you moved about the teaching space.	1	2	3	4	5	6	7
2.	*Teacher Gestures* You used gestures (hands, body, head, face) to convey extra meaning.	1	2	3	4	5	6	7
3.	*Teacher Voice* You varied your rate, volume and expressiveness of speaking.	1	2	3	4	5	6	7
4.	*Focussing* Your important points were stressed by using gestures (pointing, etc.) or through words (watch this, listen carefully, etc).	1	2	3	4	5	6	7
5.	*Interactions* You varied the kind of pupil participation. Teacher-Group: Teacher-Pupil: Pupil-Pupil.	1	2	3	4	5	6	7
6.	*Pausing* You used pauses to give pupils time to think, to pay attention, to emphasise a point. That is, all teaching activity ceased for short periods.	1	2	3	4	5	6	7

(By courtesy of G. A. Brown)

FIGURE 7



(By courtesy of McAleese and Unwin 1971)

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