An Introduction to Curriculum Research & Development

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THE TEACHER AS RESEARCHER

For me this chapter is of central importance. In it I shall try to outline what I believe to be the major implication for the betterment of schools emerging from curriculum research and development. Stated briefly, this is that curriculum research and development ought to belong to the teacher and that there are prospects of making this good in practice. I concede that it will require a generation of work, and if the majority of teachers – rather than only the enthusistic few – are to possess this field of research, that the teacher's professional self-image and conditions of work will have to change.

Let me review some strands in the argument.

First, I have argued that educational ideas expressed in books are not easily taken into possession by teachers, whereas the expression of ideas as curricular specifications exposes them to testing by teachers and hence establishes an equality of discourse between the proposer and those who assess his proposal. The idea is that of an educational science in which each classroom is a laboratory, each teacher a member of the scientific community. There is, of course, no implication as to the origins of the proposal or hypothesis being tested. The originator may be a classroom teacher, a policy-maker or an educational research worker. The crucial point is that the proposal is not to be regarded as an unqualified recommendation but rather as a provisional specification claiming no more than to be worth putting to the test of practice. Such proposals claim to be intelligent rather than correct.

Second, in my definition of the curricular problem in Chapter 1, I have identified a curriculum as a particular form of specification about the practice of teaching and not as a package of materials or a syllabus of ground to be covered. It is a way of translating any educational idea into a hypothesis testable in practice. It invites critical testing rather than acceptance.

Finally, in the previous chapter I have reached towards a research

design based upon these ideas, implying that a curriculum is a means of studying the problems and effects of implementing any defined line of teaching. And although, because of my own location in the education industry, I have drawn my example from a national project co-ordinating and studying the work of many teachers, I believe that a similar design could be adopted by an individual school as part of its development plan. I have argued, however, that the uniqueness of each classroom setting implies that any proposal – even at school level – needs to be tested and verified and adapted by each teacher in his own classroom. The ideal is that the curricular specification should feed a teacher's personal research and development programme through which he is progressively increasing his understanding of his own work and hence bettering his teaching.

To summarize the implications of this position, all well-founded curriculum research and development, whether the work of an individual teacher, of a school, of a group working in a teachers' centre or of a group working within the co-ordinating framework of a national project, is based on the study of classrooms. It thus rests on the work of teachers.

It is not enough that teachers' work should be studied: they need to study it themselves. My theme in this chapter is the role of the teacher as a researcher in his own teaching situation. What does this conception of curriculum development imply for him?

Hoyle has attempted to catch the implications of curriculum development for teachers in the concept of extended professionalism as opposed to restricted professionalism.

> The *restricted professional* can be hypothesized as having these characteristics amongst others:
>
> A high level of classroom competence;
> Child-centredness (or sometimes subject-centredness);
> A high degree of skill in understanding and handling children;
> Derives high satisfaction from personal relationships with pupils;
> Evaluates performance in terms of his own perceptions of changes in pupil behaviour and achievement;
> Attends short courses of a practical nature.
>
> The *extended professional* has the qualities attributed to the restricted professional but has certain skills, perspectives and involvements in addition. His characteristics include the following:
>
> Views work in the wider context of school, community and society;
> Participates in a wide range of professional activities, e.g. subject panels, teachers' centres, conferences;

Has a concern to link theory and practice;
Has a commitment to some form of curriculum theory and mode of evaluation.

(Hoyle 1972a)

I am sceptical about some of this. Why child-centredness, for example? And surely theories should be the objects of experimental testing, not of commitment. The extended professional appears to fall short of autonomy and this is confirmed elsewhere in Hoyle's writing:

> This does not mean that we are underestimating the significance of the teacher in the innovation process. The teacher is important in three respects:
> (a) He can be independently innovative at the classroom level;
> (b) He can act as a 'champion' of an innovation among his colleagues;
> (c) Ultimately, it is the teacher who has to operationalize on innovation at the classroom level.
>
> (Hoyle 1972c, 24)

I don't think this limited role and limited autonomy is a satisfactory basis for educational advance. The critical characteristics of that extended professionalism which is essential for well-founded curriculum research and development seem to me to be:

The commitment to systematic questioning of one's own teaching as a basis for development;
The commitment and the skills to study one's own teaching;
The concern to question and to test theory in practice by the use of those skills.

To these may be added as highly desirable, though perhaps not essential, a readiness to allow other teachers to observe one's work – directly or through recordings – and to discuss it with them on an open and honest basis.

In short, the outstanding characteristics of the extended professional is a capacity for autonomous professional self-development through systematic self-study, through the study of the work of other teachers and through the testing of ideas by classroom research procedures.

What techniques of classroom study are available to the teacher who takes this position?

Probably the best-known technique is that of interaction analysis, which has in one form or another a long history, though modern developments are often seen as descendents from Bales' work in studying small groups (Bales 1950). Flanders is the best-known figure in this field, having been the centre of a group in the United States which has developed interaction analysis methods for the study of teaching and for teacher training. (See for example, Amidon and Hunter 1966; Amidon and Hough 1967; Flanders 1970)

Flanders has defined classroom interaction analysis in the following terms:

> Classroom interaction analysis refers not to one system, but to many systems for coding spontaneous verbal communication, arranging the data into a useful display, and then analysing the results in order to study patterns of teaching and learning.
>
> (Flanders 1970, 28–29)

It is in fact a method of organizing data from the observation of classrooms. The problem, as Flanders sees it, is

> . . . to decide how teachers and college students can explore various patterns of interaction and discover for themselves which patterns they can use in order to improve instruction.
>
> (Flanders 1970, 17)

> An observer sits in the classroom or views a video-sound playback, or just listens to a voice recording and keeps a record of the flow of events on an observation form. . . . He is trained to use a set of categories. He decides which category best represents each event and then writes down the code symbol of that category.
>
> (Flanders 1970, 5)

Flanders' own category system, F.I.A.C. (Flanders Interaction Analysis Categories), which is shown in Figure 4 on the following page (Flanders 1970, 34) can serve as an example.

Interaction analysis of this kind is a useful but an extremely limited instrument.

Hamilton and Delamont (1974, 3) suggest that

> interaction analysis techniques are an efficient way of discovering the norms of teacher and pupil behaviour. Thus, a particular teacher's 'score' from an interaction analysis study will 'place' her in relation to her colleagues; but it will supply very little other information about her as an individual.

The authors suggest (3–5) a number of factors which impose restrictions upon the use of interaction analysis:

> 1) Most interaction analysis systems ignore the context in which the data are collected. They make no provision for data concerning, for example, the lay-out of the classroom or the equipment being used.

Fig. 4 Flanders' Interaction Analysis Categories* (F.I.A.C.)

Teacher Talk	Response	1. *Accepts feeling.* Accepts and clarifies an attitude or the feeling tone of a pupil in a non-threatening manner. Feelings may be positive or negative. Predicting and recalling feelings are included.
		2. *Praises or encourages.* Praises or encourages pupil action or behaviour. Jokes that release tension, but not at the expense of another individual; nodding head, or saying 'Um hm?' or 'go on' are included.
		3. *Accepts or uses ideas of pupils.* Clarifying, building, or developing ideas suggested by a pupil. Teacher extensions of pupil ideas are included but as the teacher brings more of his own ideas into play, shift to category five.
		4. *Asks questions.* Asking a question about content or procedure, based on teacher ideas, with the intent that a pupil will answer.
	Initiation	5. *Lecturing.* Giving facts or opinions about content or procedures; expressing *his own* ideas, giving *his own* explanation, or citing an authority other than a pupil.
		6. *Giving directions.* Directions, commands, or orders to which a pupil is expected to comply.
		7. *Criticizing or justifying authority.* Statements intended to change pupil behaviour from non-acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.
Pupil Talk	Response	8. *Pupil-talk – response.* Talk by pupils in response to teacher. Teacher initiates the contact or solicits pupil statement or structures the situation. Freedom to express own ideas is limited.
	Initiation	9. *Pupil-Talk–initiation.* Talk by pupils which they initiate. Expressing own ideas; initiating a new topic; freedom to develop opinions and a line of thought, like asking thoughtful questions; going beyond the existing structure.
Silence		10. *Silence or confusion.* Pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.

*There is *no* scale implied by these numbers. Each number is classificatory; it designates a particular kind of communication event. To write these numbers down during observation is to enumerate, not to judge a position on a scale.

2) Interaction analysis systems are usually concerned only with overt, observable behaviour. They take no account of the intentions which lie behind such behaviour.

3) Interaction analysis systems are expressly concerned with 'what can be categorized and measured'. (Simon and Boyer 1970, 1) But, by using crude measurement techniques, or ill-defined category boundaries, the systems may well obscure, distort or ignore the qualitative features they claim to be investigating.

4) Interaction analysis systems focus on 'small bits of action or behaviour rather than global concepts' (Simon and Boyer 1970, 1). Inevitably, therefore, they generate a super-abundance of data. Yet, to interpret such data it has to be linked to a set of descriptive concepts – typically the categories themselves – or to a small number of global concepts built up from the categories.

5) By definition, the systems utilize pre-specified categories. If the systems are intended to assist explanations, then the explanations may be tautologous.

6) Finally, by placing firm boundaries on continuous phenomena, the systems create a bias from which it is hard to escape. Reality – frozen in this way – is often difficult to liberate from its static representation.

The authors note that some of these limitations have been acknowledged by the originators of the systems. In particular, the first three have been clearly defined by Flanders (1970, Chapter 2).

Adelman and Walker (1973) in a critical comment on the F.I.A.C. system suggest that 'the most significant weakness in the theoretical basis of the technique is in its naïve conception of "talk" as a means of human communication'. In their own study of classrooms they found that the talk did not fit the categories available for coding it. The suggestion is that Flanders' analytic categories are based on classrooms which are instructional and where talk is in a public dialogue form. It 'makes little sense when applied to some of those intimate conversations between teachers and children where both are talking but where the only questions that are being asked are those asked by the children'. In short, F.I.A.C. – and for that matter other available interaction systems – does not fit open classrooms in which talk is not as stereotyped and limited in range and tone as it tends to be in the teacher-dominated instructional classroom. Adelman and Walker make this observation in their summary.

> Flanders' system for the analysis of classroom interaction is limited by its inherent conception of talk. This limits it to seeing teacher-student interaction in terms of the *transmission* of information – sometimes one-way, sometimes two-way. It does not concern itself with talk as the expression and negotiation of meanings; as the medium through which

people see themselves as others see them. The underlying concept is simply one of information-exchange, it does not touch on the relationships between talk and knowledge, between talk and identity, both for oneself and for others. In short, it sees talk as transmission, not as communication.

This finding confirms the experience of Elliott and MacDonald who attempted to produce an interaction analysis system on classic lines to monitor discussion in the classroom and found themselves unable to devise a limited category system which caught the important distinctions they were able to draw in qualitative analysis.

My conclusion is that interaction analysis is a technique of very limited use to the teacher in researching his own classroom. It can be used if he is engaged in basically instructional class teaching, to obtain a crude descriptive impression of some aspects of his verbal behaviour in classroom situations; and it provides a basis for quantitative comparison of his behaviour with that of other teachers. In research terms, however, I believe it is a cul-de-sac. And many of its weaknesses come from the attempt to provide quantitative data which will support generalizations, an attempt not of central importance to the teacher seeking an understanding of the unique as well as the generalizable elements in his own work. Interaction analysis systems provide *Mirrors of Behaviour* (Simon and Boyer 1967, 1970), but they are distorting mirrors.

An alternative approach to the study of classrooms which is available in the research literature pays much more attention to the content of teaching than does interaction analysis. This approach is concerned with the logic of teaching.

The lead in this type of work was given by B. O. Smith and his colleagues at the University of Illinois. They worked from the transcripts of eighty-five tape recordings made in five high schools, and successively adopted two different category systems for their analysis.

In their later work they distinguished logical sequences of teaching which they called *ventures*, and classified according to their objectives. Thus, for example, *causal ventures* had as their content objective 'a cause-effect relationship between particular events or between classes of events', while *conceptual ventures* had as their objective learning 'a set of conditions either governing, or implied by, the use of a term'. (25) They distinguished and exemplified eight types of ventures.

Within the logical structure of the venture, they distinguished strategies.

> Pedagogically, strategy refers to a set of verbal actions that serves to attain certain results and to guard against others. From a general stand point, strategies may serve to induce students to engage in verbal exchange, to ensure that certain points in the discourse will be made clear, and to reduce the number of irrelevant or wrong responses as the students participate in discussion, and so on.
>
> (Smith, Meux *et al.* 1967, 49)

One dimension of strategy is identified in the various kinds of verbal manipulation of the content of teaching. These Smith and his colleagues call 'moves'. And a consecutive sequence of moves of the same type is called a play.

It will be clear that Smith's categories rest more on logic than do those of the interaction analysts, but the 'strategy', as defined above, distinguishes teacher control moves in interaction with the pupils. Even more than the interaction analysts Smith is teacher-centred – he sees the crucial element in the classroom as teacher utterances – and the eighty-five classroom sequences he and others have studied and analysed over ten years are examples of extremely formal teaching.

As Walker (1971) comments:

> What is significant about Smith's work is that he is able to use this highly restricted approach to classroom activity and to realize a meaningful picture of life in at least some classrooms. Obviously, the fact that he is able to do this means that in the sample of classrooms he studied the semantic aspects of the public verbal behaviour of the teacher constitute the major communication system, and the social structure of the class is geared to this restricted channel of communication.
>
> (60)

And after surveying the work not only of Smith but also of Nuthall and Laurence (1965) and of Bellack (1966), and Kliebard (1966), the same author concludes:

> Perhaps the most valuable thing to be learned from all these studies is that among the many possible ways that a teacher might function if his sole concern was the presentation of knowledge, only a narrow range of options is taken up in practice by the teacher. The main reason for this seems to be that the teacher operates primarily in terms of roles other than his concern with the presentation of knowledge. He acts as if his main task was that of establishing and maintaining a certain social structure within the classroom group. The main feature of this social structure is the thing that Bellack and Smith both assume – formality in verbal communication, and given this overriding concern of maintaining formality it is not surprising that teachers tend to dominate verbal output, to give a large part of lesson content over to such arbitrary things

as routine and management, and to rely heavily on description rather than on higher cognitive operations. It is simply easier to manage a formal context in this way.

The question that needs to be kept in mind through all this research is, How does the teacher manage knowledge in other contexts? In other words, What happens in the 'open' classroom? and just what is the role of private verbal communication in the classroom?

These are crucial questions in the present context for curriculum innovation often involves changing conceptions of the relationships between knowledge and teachers and learners and these changes are of critical significance for the social structure of the classroom. New curricula often involve the teacher in abandoning the role which is studied in most interactional and logical analyses of the classroom. We must neither minimize the usefulness, limited though it be, of interactional and logical analysis nor assume that further development of these approaches will not capture a wider applicability. It remains true that we must look towards other approaches more able to face the complexity of the classroom.

The alternative approach which has been most attractive to research workers may be called 'social anthropological'. It 'has used direct observation of classroom events as a starting point in the development of theory [and] . . . it rather shies away from quantification and uses only detailed field notes as a means of recording'. (Walker 1971, 83). In this it resembles the approach of the anthropologist who studies a community or of the student of animal behaviour. Theory is gradually built up from the examination of accumulated observations. It is partial and fragmentary. Above all it attempts not merely generalization but also the characterization of the uniqueness of particular situations.

> For the observer who chooses to use an anthropological style of observation there can be no clear cut results. The aim here is to uncover concepts that classify different classroom situations in a meaningful way, and so the observer is programmed, not with explicit, unambiguous and closely defined categories, but with broad, general theories and expectations. If the observer is to look for the unexpected and the unusual event in the classroom then he must have some idea, some prediction of what might happen, or what should happen. Most classroom events are relatively trivial and untraumatic and to raise them to the level of interest and observation the observer must have some fundamental theory at the back of his mind. The secret of good observation is to create the unusual from out of the commonplace.
>
> (Walker 1971, 87)

This may sound elusive. At the theoretical level the approach is a complex one, methodology is subtle and debatable, generalization and summary are difficult. But the product, the study which emerges and is presented to the reader is vivid and generally speaks very directly to teachers.

This makes the problem of characterizing the approach adequately in a brief summary of the kind appropriate here an intractable one.

Walker (1971) offers an excellent critical survey of the studies of Henry (1955a; 1955b; 1957; 1959; 1960; 1966); Smith and Geoffrey (1968); Jackson (1964; 1965; 1966; 1968); Kounin and his associates (Kounin 1970; Kounin, Friesen and Norton 1966; Kounin and Gump 1958; Kounin, Gump and Ryan 1961).

Walker himself built his own study on this review of the work in the field which he concludes with the following judgement:

> My overall impression of this literature is that where it is precise and reliable, that is to say where it attempts to measure; it is generally narrow and limited. The definitions of 'teaching' that it imposes on the realities of the classroom are narrower than the varieties of experience that are actually found there. . . . The choice that the available research methods provide is between being precise and simple-minded, or being vague and inaccurate.
>
> (Walker 1971, 142–143)

Accordingly, Walker sets about developing 'a descriptive language within which to frame some of the variables involved in educational innovation'. (144) He worked by observing two classrooms closely, strengthening his observation by tape recordings. He sought a kind of observation and descriptive language which should have the quality of 'variable sensitivity'; 'in other words it must be capable of looking simultaneously at what happens in the classroom both in terms of great detail, and in considerable generality – it requires the conceptual equivalent of a zoom lens'. (143)

In the nature of the case, the language he evolved is too extensive to report here in a way that would be meaningful for the reader.

He distinguishes the 'context' and 'content' of classroom activities, assimilating to context those concepts which provide a means

> of describing classroom activity in a way that is content-free, and it is done by looking at the way in which verbal messages are communicated. [And he stresses that] the categories are used primarily to show how changes are made between different states of activity, rather than as essential descriptions of individual forms. In this way they are rather

different from the terms 'authoritarian', 'teacher-centred', 'direct', etc. that are traditionally used in this kind of research.

(180)

He is concerned to catch the dynamics of the classroom process rather than to harden off into a necessarily static categorization of styles in terms of role analysis. And he takes account of pupil interaction, not merely teacher-pupil interaction.

In his analysis of content, Walker's work complements that of Bernstein, Young and Esland (Young 1971a). His terms are often clearer and they generally have better empirical anchorage.

He uses the term *definition* to refer to 'the level of generality of the teacher's control on content' (185), and distinguishes three other dimensions:

The Particular-General Dimension: 'The observation of this dimension simply involves scanning content for moves from statements about general objects or events to particular examples, or vice versa'.

(190)

The Personal-Objective Dimension: 'Here content has to be watched for moves by either the pupils or the teacher to personalize public information. One of the commonest ways of doing this is in the telling of an anecdote'.

(191)

Content Open – Content Closed: 'A sequence may start from a single statement, from which successive statements are generated by either logical or associational processes, to form a kind of branching pattern. This pattern indicates that there has been some divergence in content and so content is described as "open". . . . Alternatively, a sequence of statements may be directed towards the construction of some overarching theme or explanation, so that there is an overall narrowing in the range of content. When content is closed the sequence of statements invariably converges on a target statement to complete the sequence.'

(193)

These four dimensions are interrelated through the diagnosis of observed classroom transactions and reveal 'certain patterns in the sequences by which knowledge is organized and transmitted'. (195) At this stage Walker claimed no more than to have found a way of presenting an understanding of his own limited observations.

This work seems to me to catch some important aspects of the reality of classrooms. It requires sensitivity and judgement on the part of the observer, but it is capable of contributing to a public tradition supportive of such sensitivity and judgement.

Subsequently Walker and Adelman undertook a study of a wider range of classrooms and faced more squarely the problems of observing and describing open and flexible styles of teaching. In this later work they adopted Bernstein's concepts, 'classification' and 'framing', though they found the nature of teachers' 'codes' more difficult to diagnose than might at first be expected. For example, they found a case where teaching with strong classification and framing was so overlaid with the humour and intimacy of a likeable teacher that the underlying code was in effect camouflaged. (Walker and Adelman 1972)

They paid particular attention to 'transitions' which 'occur in the process when the teacher (usually) has to change or progress to a fresh aspect of the task'. They distinguish six interrelated transitional aspects of classroom action, which are carefully defined and studied. This concentration on the point of change from sequence to sequence in the classroom process is profitable because the intentions, control strategies and background assumptions of the teacher are thrown into relief at such points.

I find their work at this stage (Walker and Adelman 1972) conceptually dense at times and also think that in some of their theoretical wrestling they are struggling with problems most readers will feel less keenly than they do. Nevertheless, they are able to throw into vivid relief many aspects of the classroom which are recognized as soon as they are noticed; and they pick up the role of jokes and allusions of a kind that have escaped most observers.

Another aspect of their work is the use of stop-frame film with synchronized sound recording in order to supplement their own field notes and highlight elements of classroom activity which they were missing in direct observation. (Adelman and Walker 1974) This provides the zoom lens effect which Walker earlier asked of his concepts (see page 151), and they make strong claims for the technique:

Having incorporated the technique into our repertoire of skills, we find that what we are doing is no longer strictly 'participant observation'. At the time of observation what we do is not too dissimilar from regular participant observation, but outside the immediate situation we have available material which is qualitatively quite different to the usual observational record. It is not only more reliable, but also more flexible and more vivid, and this opens up opportunities for research that have been little explored in the past.

(Walker and Adelman 1972, 21)

Hamilton (1973) used more conventional techniques of classroom observation supplemented by questionnaires, but like Walker and

Adelman associated his work closely with innovations in teaching. Whereas they studied teachers whose innovative style derived from an interest in 'open education' of one sort or another, Hamilton's teachers were working within a 'public innovation' – Scottish Integrated Science. In this context his work is more assimilable to curriculum evaluation than is theirs, and indeed he suggests that classroom analysis of the kind he is undertaking is necessary for an understanding both of curricular reforms and of secondary school reorganization.

In the most substantial part of his empirical work Hamilton is studying a team of four teachers – a physicist, a chemist and two biologists – who are engaged in teaching integrated science. The teacher's subject ideologies are in tension with the demand for integration and the observation 'shows the Scottish scheme fulfilling objectives directly opposed to those originally intended by the curriculum planners'. (Hamilton 1973, vi)

Hamilton offers eight propositions which are of interest to all who are concerned to observe teaching, and are therefore worth presenting here:

> I. Within the classroom context students and teachers never learn nothing. (Equally nothing never happens.)
> II. Students (or for that matter teachers) are never ignorant or know nothing.
> III. Taken all together the occupants of a classroon comprise an interactive social nexus.
> IV. As knowledge is unevenly distributed (and redistributed) in the classroom, classroom life is inherently unstable.
> V. Within the classroom context, the relationship between teacher and taught is best understood as a refracting rather than a transmitting medium. (Thus, for example, different individuals learn different things from the same event.)
> VI The learning milieu is not a pre-ordained setting, but, instead, is socially constructed.
> VII. Within the classroom context time is a potent influence suffusing all that takes place.
> VIII. Within the classroom context communication is not merely verbal. Both participants and objects are transmitters of a range of additional 'messages'.
>
> (Hamilton 1973, 177 *et seq.*)

Of particular interest here is Hamilton's discussion of his role as an observer. He observed in two sessions and towards the end of the first also taught for a short time in the classes he had been observing.

In one case in particular he experienced some problems in shifting role from observer to teacher. On the other hand he felt that his teaching validated him with the teachers he was observing. Hargreaves (1966) and Lacey (1970) also report tensions between the role of teacher and that of participant observer.

This issue is clearly of crucial importance if we are to consider the teacher as researcher into his own work. Hamilton makes an important point which I think has a bearing on this.

> At a more general level, I would argue that in a school situation where (as Hargreaves puts it) 'any adult not dressed as a workman usually has some strong connection with the teaching profession' (1966; p. 201) a researcher is unable to define himself in the eyes of the children *except* in relationship to the teaching figures they are accustomed to. (In short, there is no such thing as an 'objective' observer role.) The observer's relationship with children is strongly influenced by his relationship with the teacher. Before he can effectively establish his own role, an adult observer must first recognize and understand the teacher's role. Thus, while it is possible and relatively easy for an observer to have an 'open' relationship with children in an 'open' classroom, it is not so easy, as Hargreaves found in a problem secondary modern school, to establish a similar research relationship in a 'closed' setting.
>
> (Hamilton 1973, 190–191)

Considered in this light, it seems probable that a teacher can assume the role of a researcher, but that this will be possible only in an 'open' classroom. The particular characteristic of the 'open' classroom (the term is not a precise one) which is relevant here is that of open negotiation and hence definition of the teacher's role. Such a definition is of course a gradual and progressive definition because it is learned by the participants in the classroom situation. Now, in order to be an observer/researcher, the teacher needs to teach that definition of himself to the pupils. In my experience, this is quite possible provided he makes it clear that the reason he is playing the role of researcher is to improve his teaching and make things better for them. I shall look at this situation more closely later. For the moment it is enough to state it clearly.

A teacher who wishes to take a research and development stance to his own teaching may profit at certain stages in the development of his research by the presence of an observer in his classroom. In the project on teaching about race relations reported in the last chapter, there have been several instances of teachers working in pairs teaching and observing by turns. In one school, members of the social studies department have acted as observers for a drama teacher. These

arrangements have been fruitful, but they imply staffing deployment likely to be secured in present circumstances only in the validating context of a national project.

Another possibility is that a research-oriented teacher may train a student in a tradition of observation by observing the student and inviting the student to observe him. At the moment, where this occurs, it is something of a breakthrough. And it demands unusual sensitivity and good personal relationships on both sides. If we could get general acceptance of the proposition that all teachers should be learners and create a public research methodology and accepted professional ethic covering this situation, we would have a basis for observing the teaching of colleagues which greatly reduced the element of threat in the situation.

Most of the work done in this area has relied on observers who are research workers rather than teachers. And, generally speaking, these workers have been more interested in building a theory of teaching and reporting observations in a form addressed mainly to the research community, than in improving the classrooms they have studied. This is not true of all the work reported, but there are almost always traces of the separation of the research worker from the teacher.

Hamilton (1973) advises participant observers: 'Recognize that research relations are facilitated if the observer can find some way to "give" as well as to "take". Just taking an interest in a school and being a sympathetic listener may well be enough.' (203)

The strength of assumptions in the research tradition, and the limited openness he negotiated with the teachers he was observing, conspired to hide from him the obvious point that his observations might have been used to develop and improve the teaching in a very direct way. In fact the observer/teacher duo can define the situation to the pupils in these terms just as the teacher/researcher can. Classroom research is about bettering classroom experience. The main barrier to pupils' understanding this is our having taught them that the teacher is always right. This elevates personal wisdom at the expense of professional skill.

Let us now take stock.

I began this chapter by arguing that effective curriculum development of the highest quality depends upon the capacity of teachers to take a research stance to their own teaching. By a research stance I mean a disposition to examine one's own practice critically and systematically. I have reviewed the tradition of classroom research which professional research workers have built and tried to explore the possibility and the problems of teachers casting themselves in the

role of researchers. Given that they can define themselves in this way, what theoretical and methodological problems do they face?

It is important to make the point that the teacher in this situation is concerned to understand better his own classroom. Consequently, he is not faced with the problems of generalizing beyond his experience. In his context, theory is simply a systematic structuring of his understanding of his work.

Concepts which are carefully related to one another are needed both to capture and to express that understanding. The adequacy of such concepts should be treated as provisional. The utility and appropriateness of the theoretical framework of concepts should be testable; and the theory should be rich enough to throw up new and profitable questions.

Each classroom should not be an island. Teachers working in such a tradition need to communicate with one another. They should report their work. Thus a common vocabulary of concepts and a syntax of theory need to be developed. Where that language proves inadequate, teachers would need to propose new concepts and new theory.

The first level of generalization is thus the development of a general theoretical language. In this, professional research workers should be able to help.

If teachers report their own work in such a tradition, case studies will accumulate, just as they do in medicine. Professional research workers will have to master this material and scrutinize it for general trends. It is out of this synthetic task that general propositional theory can be developed.

But what of the methodological problems? If I leave aside problems in the economy of time which probably exclude all but the most energetic teachers from such work, given present staffing and organization in schools, there are two main areas in which methodological problems occur. First, there is the problem of objectivity. Second, there is the problem of securing data.

The problem of objectivity seems to me a false one. Any research into classrooms must aim to improve teaching. Thus any research must be applied by teachers, so that the most clinically objective research can only feed into practice through an interested actor in the situation. There is no escaping the fact that it is the teacher's subjective perception which is crucial for practice since he is in a position to control the classroom.

Accordingly we are concerned with the development of a sensitive and self-critical subjective perspective and not with an aspiration towards an unattainable objectivity. This is difficult enough. Illusion,

assumption and habit must be continually tested. Illusion may be destroyed when disclosed. Assumptions and habits will be changed.

The problem is one of awareness. Walker (1971), writing from the point of view of a classroom observer, says: 'You also need to think at a level of detail that is below the threshold of awareness of the teacher, *and* at a level roughly approximate to the level of conscious teacher strategies'. Conscious study can lower the threshold of awareness and help the teacher to be more perceptive. But he can never escape from the process within which he must respond as he does his work. I believe that much teaching must be habitual in the way that playing tennis is: it is a question of cultivating habits I can defend and justify. And note that the good player often improves his performance by becoming self-conscious. At practice he is converting deliberate awareness into reliable habit.

How do we get the data on which to do this?

A games player often uses a coach, who is in effect a consultant observer. Similarly, a teacher may, as I have suggested, invite an observer into his classroom. In this case, the data may be gathered in the light of the participant observer research tradition I have reported in this chapter. Some adjustment is necessary because within the tradition the teacher is usually seen as the object of the observation, and not as a co-worker with the researcher. Thus Louis Smith 'explained his presence in the school . . . by saying, "In a way it's kind of like Margaret Mead, the anthropologist, who went to the South Seas to observe the natives." To which the teachers invariably responded, "And we are the natives." ' (Walker 1971, 83)

In Smith and Geoffrey's work, however, there was a research partnership between observer and teacher.

> . . . they worked out a research design which involved Louis Smith spending as much time as possible sitting in the back of Geoffrey's seventh grade classroom as an observer, while Geoffrey himself made notes when he could. The two observers, one 'inside' and the other 'outside' the system, then compared notes at various times, and in the final analysis of the material used each other as checks and sources.
>
> (Walker 1971, 99)

Walker and Adelman also worked collaboratively with teachers, but it is noteworthy that they wrote the reports whereas Smith and Geoffrey published their work as co-authors.

Where it is not possible for a teacher to have the services of an observer, an obvious recourse is to some form of recording. Video-tape is costly and as a rule requires assistance. The stop-frame

photography technique employed by Walker and Adelman involves expensive equipment, though there are ways of photographing one's own classroom with an ordinary camera. On the whole, however, the most accessible means of gathering data is audio-tape. This too is limited by acoustic problems, but within these limitations it is of great value. Walker and others have criticized its use on its own on the grounds that the incomplete record it gives is difficult to interpret reliably; but they write from the point of view of outside observers, and I do not think that the objection applies nearly so much to the situation of the teacher studying his own classroom. The teacher is more able to interpret a tape than a stranger is, given an adequate degree of self-critical awareness.

A further possibility is to gather perceptions of the classroom situation from the pupils. This strategy has exciting possibilities and progress in it has been made by Elliott and Adelman whose work is reported at the end of this chapter.

I conclude that the main barriers to teachers' assuming the role of researchers studying their own teaching in order to improve it, are psychological and social. The close examination of one's professional performance is personally threatening; and the social climate in which teachers work generally offers little support to those who might be disposed to face that threat. Hence for the moment the best way forward is probably through a mutually supportive co-operative research in which teachers and full-time research teams work together. The situations in which this becomes possible are most likely to be created within research and development projects in curriculum and teaching, and in the remainder of this chapter I want to review some work of this sort.

First, a very simple and elementary example. In the classic curriculum project the impulse towards monitoring one's own performance in the classroom arises from the need to verify whether one is in fact succeeding in implementing the pedagogy of the curriculum. Thus in *Man: A Course of Study*, in which pedagogic or process aims (see page 92) are important, the teacher is offered a very simple observation schedule structured on continua between poles (Fig. 5). This schedule is a crude device, but within limits it is an effective one, though it can scarcely be regarded as a research instrument as it stands.

The Humanities Curriculum Project went farther than this. First, it defined its pedagogy in terms of principles – the aim and the concept of neutral chairman. Then it suggested variables likely to be of importance in relation to that aim and concept and invited teachers

Fig. 5 Classroom Observation Checklist

Evaluation of the lesson

Factual questions	—:—:—:—	Opinion questions
Short answer	—:—:—:—	Lengthy response
Questions mostly from teacher	—:—:—:—	Questions mostly from students
Exchanges largely student to teacher	—:—:—:—	Exchanges largely student to student
Teacher sets and controls agenda	—:—:—:—	Students initiate topics of discussion
Teacher's role: authority	—:—:—:—	Teacher's role: non-participant
Students have no clear sense of purpose	—:—:—:—	Students have clear sense of purpose
Less than 1/3 student participation	—:—:—:—	Almost all students participate
Student interest low	—:—:—:—	Student interest high
Class is quiet	—:—:—:—	Class is noisy

General teacher style

Teacher's stance: apart from students	—:—:—:—	Physically close to students
Practically no teacher movement	—:—:—:—	Much teacher movement
Teacher doesn't draw out students	—:—:—:—	Teacher makes efforts to draw out students
Teacher is strict with regard to student behavior	—:—:—:—	Teacher is permissive
Teacher 'talks down' to students – much	—:—:—:—	Teacher 'talks down' to students – none
Teacher dominates the class	—:—:—:—	Teacher and students work together co-operatively

to evolve their own 'neutral chairman role' by testing the operation of these variables, and of course any others whose influence they detected. There was a considerable problem in communicating this research stance. Curriculum projects were expected by teachers to tell them what to do rather than to invite them to undertake research. Dale (1973) has described this communication problem at the first experimental stage of the project.

> I do not think that at any stage during the first months with the project did we feel that we had either the authority or any of the basic skills to research into our own teaching effectiveness. Research into teaching involves special techniques and an expertise that is normally found only in university departments. . . . It was therefore not surprising that we left all comment about our classroom performaces to the central team, and were somewhat frustrated when little in the way of such comment was forthcoming. But it established the pattern of dependence on the central team as the experts, the authority on whether we in the schools were 'doing the Project' correctly. No matter how often they attempted to reject this dependence and to reiterate the statement about being partners in the development of the Project, and how often they assured us that they needed to learn from the trial schools, we in those schools did not accept this. We could not believe that the central team were really in this position, and that they really did not have answers to our never-ending classroom problems. As teachers we expected to come to the fountain head, and to receive reassurance. And I do not yet see how the fallibility of the project director or the central team can be appreciated by the trial schools. All the traditions of teacher training militate against it, all teachers' expectations militate against it, and the position of the central team as the focal point of the development militates against it. . . . It is all too easy for exploratory ideas and suggestions from the central team to become authoritative statements in the eyes of the trial schools. When we were presented with what the central team saw as a series of hypotheses to be explored in the classroom, they became in our hands no longer hypotheses but matters of H.C.P. policy or a series of rules to be obeyed at all costs. Failure to adhere to them implied a failure to operate the project. We had neither the confidence to challenge these hypotheses nor the belief that we were able, as part of our brief, to explore and investigate them in the classroom situation and so test their validity.

The problems of research co-operation between teachers and research teams could not be put more clearly. In the present climate it is extremely difficult to overcome them. Nevertheless, in spite of Dale's pessimism, I believe progress has been made. There is certainly evidence that some groups of teachers have taken the research role in the dissemination stage of the Humanities Project. Consider the following report of a course for Humanities Project teachers organized by the I.L.E.A. (I.L.E.A. 1973):

> To begin with we tried to decide what criteria we considered when we talked about improvement and progress within discussion. We decided on the following:
>
> Interchange between group members: this includes such thing as the students taking the initiative instead of the chairman (as in the Bishop Thomas Grant tape – after the second reading on the second tape there is no lead-in by the chairman, the boys start straight away). We agreed that this interchange is the responsibility of the chairman. In the Further Education tape, for example, the chairman (a student) is totally recessive – this has resulted in lack of direction and the result is a poor level of discussion, lacking depth, from a group of students who appeared very articulate. In the school tapes the chairman often used short questions to clarify and reinforce answers, to guide discussion and to maintain relevance. The discussion, we felt, was very much the same at the beginning and at the end – it had neither progressed nor developed. We saw on all three school tapes at some time or another certain points of interaction between

teacher and one pupil – we would consider progress in discussion had taken place if there was direct interaction, i.e. pupils questioning each other and not looking at the chairman but to the group when talking. Pupil questioning did not really occur significantly on any of the video-tapes. However, talking to the group as a whole, instead of the chairman, was achieved by most groups by the end of the taped sessions. This links up with group sensitivity and understanding of each other – for instance in the Bishop Thomas Grant tape: support for Maureen when she cannot express what she wants to say is shown when the group wait for her and let her finish. We also looked under the heading of group interchange at the tolerance or discipline of discussion and opinions, leading not to blind acceptance but greater understanding, while still having a divergent point of view. All tapes had examples of slight points of agreement and disagreement but nothing truly extreme. The Bishop Thomas Grant tape probably revealed most divergence and we felt that the discussion was growing towards being 'disciplined' and points of view were respected.

The second heading really considers the content and development of discussion. Most of the discussion at the beginning of the tapes was personal, relating to direct experiences, and throughout the discussion language remained expressive whatever the content. What is talked about tends to be known and concrete. We considered a marked development had taken place when students started dealing with and considering hypothetical (and therefore to them abstract) situations. We felt that this had developed in the discussion on Peckham's first tape with Ron: for example his insight into children who say 'yes sir, no sir', for the sake of peace and quiet, and his later comment on the situation of teachers – if there were no case 'he'd be in a box by himself'. In the second Peckham tape the lads were trying to make positive suggestions and criticising each other while considering the problem of the disruptive boy. They were putting themselves in the position of thinking about problems of the teacher. Flashes of insight were apparent – for instance, 'By walking out on a teacher you're not really getting to know him.' The students in all school tapes followed the discussion well, and we felt there was little that was irrelevant.

I believe that fruitful development in the field of curriculum and teaching depends upon evolving styles of co-operative research by teachers and using full-time researchers to support the teachers' work. This probably means that research reports and hypotheses must be addressed to teachers, that is, they must invite classroom research responses rather than laboratory research responses. It may also involve research-trained personnel in taking consultancy roles in teacher groups, and support roles in schools and classrooms.

These are the premises on which the project on the problems and

effects of teaching about race relations is founded, and there is evidence that it has come much nearer to communicating the research position than, on Dale's witness, the Humanities Project did. For example, most schools are writing their own reports on the work; and conference dialogue has been across schools rather than between schools and the central team.

What the 'race project' is attempting at one level and in one context, the Ford Teaching Project, directed by John Elliott, is attempting at another. It is working at a greater level of detail and depth of penetration into classrooms.

In the Ford Teaching Project, Elliott and Adelman have been working closely with teachers and advisers with the following aims:

> 1. To help teachers already attempting to implement Inquiry/Discovery methods, but aware of a gap between attempt and achievement, to narrow this gap in their situation.
> 2. To help teachers by fostering an action-research orientation towards classroom problems.
>
> (Elliott and Adelman 1973a, 10)

They took the position that 'action, and reflection on action, are the joint responsibilities of the teachers' (12). They thus combined in a team teachers from different schools, primary and secondary, and from a range of subjects.

One of the their important roles as outside researchers was to interview pupils in order to compare the teachers' and the pupils' perceptions of particular sequences of teaching. With the pupils' permission, tapes of interviews were played back to their teachers. Substantial perceptual disparities emerged. Teachers and pupils were then able to discuss these and attempt to resolve them, and in many cases the outside researchers were able to withdraw from the task of pupil interviewing having helped teachers to establish an open dialogue with their pupils about their teaching.

In *New Era* (Elliott and Adelman 1973b; Rowe 1973; Thurlow 1973) the researchers and two teachers on the project reported on the progress of the research, one teacher writing on 'The cyclical structure of evaluatory schemes' (Rowe) and one on 'Eliciting pupils' interpretations in the primary school' (Thurlow), this latter reporting the development from the pupil interviews described above.

The project is an excellent example of teachers' adopting a research and development stance to their work and of the development of a researcher role which supports such a stance. Moreover, in investigating inquiry- and discovery-based teaching it chose a line of study

which caught the pedagogical implications of a variety of new curricular developments, and documented the difficulty of implementing these in practice.

Cooper and Ebbutt (1974), two of the teachers involved, have published a paper on 'Participation in Action-Research as an In-Service Experience' in which they summarize their conclusions as follows:

1. We have found that it is possible to participate in action-research, although the constraints of the day-to-day secondary school situation tend to reduce its effectiveness.
2. So far the Project has made teachers here think deeply about their methods and techniques. We feel that this and the discussions which have followed such thoughts have been very valuable.
3. The research has shown to us that the interpretation of interviews with groups of pupils, with or without the teacher, must be treated with great care.
4. There is some evidence to suggest that a teacher's intentions may not be achieved because:
   (a) for some reason the class misinterpret his aims
   (b) he chooses the wrong method to implement his aims
   (c) his seemingly chance remarks counteract some of his aims.
5. We believe that the Project is going to prove extremely valuable for in-service training, especially as it allows teachers to evaluate their own performances, and to see and judge other teachers at work.
6. We feel that teachers of a sensitive nature might not be suitable for this type of research, or indeed for the subsequent in-service training where similar techniques are to be used.
7. We believe that teachers taking part in a project of this nature need careful and sympathetic help as well as understanding, especially when they are exposed for the first time to feedback on their own lessons. This care and help have been much in evidence in this research, but we feel that others trying to emulate the techniques used may need to be reminded that there are dangers. This is especially true when outside agencies come into the classroom situation.
8. Some of the teachers on the Project seem to have found it difficult to stand back from the classroom situation and identify certain important problems connected with their teaching. This research has helped them to become more aware that such problems exist.
9. We are pleased that this project has brought research workers into the school – it seems to have helped them to understand our problems, and helped us to understand theirs.

(Cooper and Ebbutt 1974, 70–71)

This estimate of the problems of research-based teaching is perhaps a little optimistic, and there are some signs of tension between the roles of teacher and researcher. I believe, however, that it is worth facing these tensions and attempting to resolve them. For in the end it is difficult to see how teaching can be improved or how curricular proposals can be evaluated without self-monitoring on the part of teachers. A research tradition which is accessible to teachers and which feeds teaching must be created if education is to be significantly improved.