EARLY COMMUNICATIVE SKILLS

The place of communication in the curriculum for pupils

with severe and profound learning difficulties

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"EARLY COMMUNICATIVE SKILLS"

SUMMARY

The study is concerned with the development of the area of
communication in the curriculum for a group of pupils who
did not become entitled to education in Scotland until 1974.
These pupils have severe "mental handicap", or "learning
difficulties".

   The study is specifically concerned with the place of
communication in the curriculum of those pupils who have
little or no speech. The most advanced pupils to be
considered have just begun to use "two-word-sentences". The
most profoundly handicapped are functioning at the level of
infants in the first weeks, or even days, of life.

   The study traces the development of special education in
Scotland for pupils with severe and profound learning
difficulties. It then considers the extent to which it is
possible to think of developing a curriculum for these
pupils, given that they cannot follow the curricula of
mainstream primary and secondary schools. It is suggested
that "ecological validity" is a useful principle for guiding
the development of curriculum, and for judging the value of
the experiences which the pupils are offered in school.
Communication is chosen as an area of the curriculum on
which to focus, as difficulties in the development of
communication are a characteristic of mental handicap. The
nature of communication is examined. It is suggested that
the "pragmatic" view, which sees communication as a
purposeful sharing of ideas, is a suitable foundation on
which to base the development of curriculum.

The opinions of a sample of teachers and instructors on the teaching of communication were surveyed. The survey provided guidance for later developments in the study. It also uncovered concern about assessment charts, the objectives approach and behaviour modification in the education of pupils with severe and profound learning difficulties. A review of programmes and other materials for teaching early communication to the pupils reveals that many of the materials assume that these procedures will be used in teaching. It is suggested that this assumption is a result of perceiving mental handicap as an illness to be treated or cured.

A set of draft curriculum materials was compiled on the basis of a simple framework of five stages which trace the development of communication from birth to the two-word stage. The materials were tested in a pilot study which produced recommendations for a revision of the framework and of the materials themselves. The revision was evaluated in an outreach project where it was found to help teachers select appropriate learning activities for their pupils.

Throughout the study, there are examples of teachers adapting proposals for the development of curriculum to fit the individual circumstances in which they work daily. The outcome of this personal investment is that professional development and curriculum development complement each other.

Gilbert F. MacKay

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CHAPTER ONE

HANDICAPS TO NEEDS

Introduction

This investigation describes a search for an appropriate curriculum for pupils with severe and profound learning difficulties. The purpose of this introductory chapter is to set the context of the search by describing the pupils and the provision of education which has been made for them in Scotland.

Imbeciles and idiots

Eighty years have passed since Scottish educational law first recognised formally that some pupils have difficulty learning (Education (Scotland) Act, 1906). The establishment of compulsory schooling in 1872 had brought to light the fact that there were many children who could not cope with nor benefit from what was offered by the new system of schools for they were failing to make discernible progress (Thomson, 1983). These children were labelled "mentally defective" and were defined by the 1906 Act as being "incapable of receiving proper benefit from the instruction in the ordinary schools". The 1906 Act considered that mental defect was a more seriously incapacitating condition than being "merely dull or backward" and, consequently, it empowered School Boards to set up special schools or classes for the education of mentally defective children between the ages of 5 and 16 years.

But the provision of this new system of special education

revealed the problems of another group of children, the
"imbeciles" and "idiots". Mental defect was certainly seen
as a more troublesome condition than being "merely dull or
backward", but it was less troublesome than being
"imbecile". Imbecile children had such serious difficulties
that the educational provision for defective children in the
1906 Act did not extend to them. Idiots had even more severe
difficulties than had the imbeciles, and are not mentioned
in the 1906 Act. Imbeciles and idiots were still
specifically excluded from the provisions of the education
acts forty years later (Education (Scotland) Act, 1946,
Section 140). Indeed, it was not until 1974 that their right
to education was guaranteed in Scotland (Education (Mentally
Handicapped Children) (Scotland) Act, 1974).

The imbeciles and idiots must be a remarkable group if it
took more than a hundred years to find a place for them
within the state system of education. Who, then, are these
imbeciles? How does the educational system serve them? And
what problems do they pose for the educational system? An
investigation of questions like these will prepare the
ground for considering how the system may respond best to
this group of pupils who have so recently been brought
within its ambit.

Who are these pupils?

The earliest use of "imbecile" recorded in the Oxford
English Dictionary (O.E.D.) is dated 1549. It appears in

"The Complaynt of Scotland", and is used to describe physical weakness. The O.E.D.´s own principal definition of "imbecile" is "weak, feeble in body or mind", a definition which is almost identical to that in Dr. Johnson´s dictionary of 1755. Towards the end of the nineteenth century, and therefore by the time of the Education (Scotland) Act 1906, the term was being used exclusively to describe feebleness of the mind. Thus the imbeciles of 1906 were people who had a weakness of mind which made them unable to cope with the demands of schoolwork both in ordinary schools and in the new special schools for children who were mentally defective.

In the early decades of this century the mental testing movement attempted to provided a statistical definition of imbeciles and idiots. Thouless, in the second edition of his "General and Social Psychology" (written at the University of Glasgow), cites Lewis Terman´s classification of I.Q.s: people "of I.Q. below about 20 are "idiots", from 20 to 50 are "imbeciles"" (Thouless, 1937, p.422). But there are difficulties with a definition based on statistics. For example, mental tests yield unreliable results when they are carried out on people who are young developmentally (Shakespeare, 1970). Merrill acknowledged that this unreliability would have been even greater in 1937 when she and Terman were computing I.Q.s by the (M.A. / C.A. x 100) formula in early versions of the Stanford Binet Scale, rather than by the standard deviation formula which replaced

it in the 1960 revision (Terman and Merrill, 1960).
Consequently, the labels must have dubious reliability.
People can not be assigned to these narrow,
statistically-based categories with confidence.

There are also problems about the worth of the labels
themselves. The contemporary use of "idiot" and "imbecile"
is almost exclusively abusive or derogatory, with no hint of
diagnostic purpose (Clarke et al., 1974, p. 13-14). The two
terms are regarded as synonymous both in examples and in
definitions from the O.E.D. Even "moron", the term which was
introduced in 1910 by the American Association for the Study
of the Feeble-minded to describe the "highest class of
feeble-minded" people (Supplement to the O.E.D., 1933), has
no value now. Examples from the O.E.D. show that by 1922 it
had come to mean a dull person who could be regarded with
ridicule, a meaning which lives on in the contemporary film
title, "Morons from Outer Space" (Hodge, 1985).

"Moron", "imbecile" and "idiot" are imprecise terms. They
are also very degrading terms in the colloquial speech of
today. They will therefore not be used (unless in
quotations) in the remainder of this investigation. But
there are two purposes which they may serve before they
disappear.

The first purpose which the old labels achieve is to
provide an estimate of the numbers of imbeciles and idiots
in the population. Given a standard deviation of 15 or 16
points, Terman's categorisation of the I.Q. range suggests

that one person in every two thousand of the population would fall within the category "idiot", and three in every one thousand would fall within the category "imbecile" (Craft, 1979, p.4). Thus the pupils who fall into these categories are a tiny proportion of the total school population. Setting things in context, we would expect to encounter just six or seven of these children across the complete five to eighteen year age range in a community served by a comprehensive high school of one thousand pupils and its "feeder" primary schools.

The second purpose which the old labels serve is to provide a rough operational definition of the people they categorised. Thouless did not define "idiot" and "imbecile" in the 1937 edition of his textbook. In fact, he rewrote this section in the fourth edition, eliminating all reference to these labels (Thouless, 1958), thus anticipating their replacement by "subnormal" and "mentally defective" in the Mental Health Act 1959 and the Mental Health (Scotland) Act 1960, respectively. However, Woodward and Marquis did define the old categories in their "Psychology".

> "Those showing the greatest deficiency are called idiots, those somewhat less deficient are the imbeciles. The least defective group, the morons, far outnumber the idiots and imbeciles.
> Idiots do not even avoid the common dangers of life, but will put their hands into fire, walk heedlessly into deep water or remain in front of a moving motor-car. They cannot learn to wash and dress themselves, and the most deficient among them do not learn to feed themselves or care for their bodily needs. They do not talk beyond a few monosyllables.

Imbeciles do learn to avoid the common dangers of life. They talk a little but cannot learn to read. Nor can they learn to do much useful work; the least intelligent of them are incapable of any work, those somewhat higher in the scale learn to perform a few useful acts under supervision, and those near the upper limit of the imbecile class learn to dress, wash and feed themselves, but cannot be left to perform any but the simplest and briefest tasks without constant supervision.

Morons can be taught to do simple routine work without supervision. In an institution they make the beds and run errands, and some "high-grade morons" become skilful in taking care of animals, in tending babies, doing carpentry work, or operating a lathe or sewing machine. Progressive institutions for the feeble-minded are having considerable success in sending out well-trained high-grade morons for employment in the community; but even these need general supervision by someone who understands their limitations and has their welfare at heart. Without such supervision the morons are likely to spend their money foolishly and to make poor use of their leisure time; the girls are easily led into prostitution and the boys into thievery. In general, morons do not handle a novel situation or a complicated problem with much success ...

... When scientific interest was first attracted to the feeble-minded early in the nineteenth century, some hope was entertained that they could be brought up to normal intelligence by suitable education. This hope has never been realized ...".
(Woodward and Marquis, 1949, p. 33-34).

American morons were equivalent to Scottish mental defectives both by statistical definition and by the fact that special education was provided for them (Thouless, 1937). Though Woodward and Marquis painted a bleak picture of them, we can see that the picture of people in the two lower categories was decidedly more bleak.

The views of Woodward and Marquis may seem quaint, dated and rather preposterous to special educationists in the 1980s, even though similar opinions may be found in quite recent literature (see, for example, Stafford-Clark, 1975).

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But we should be cautious with our criticism. The old, degrading labels have been replaced by new ones such as "pupils with mental handicap", or "pupils with severe learning difficulties", but the pupils themselves offer the same challenge to the education system as did their counterparts who were excluded from it when the legislation of special education first appeared. Some of the pupils will have little or no speech; their "self-help" skills for daily living may be rudimentary or nonexistent; few will have much success in elementary scholastic tasks which require reading or reasoning. How has the system responded to their challenge?

Responses to the challenge

Children with the most severe degrees of learning difficulty were excluded from the system of special schools which was set up in 1906. Nonetheless, some provision was already being made for them. Residential institutions for children with severe and complex learning difficulties had been established at Baldovan, Dundee in 1852, and in Larbert in 1863. These institutions still exist and are known respectively as Strathmartine Hospital and the Royal Scottish National Hospital. However, forms of day provision for these children also began to appear soon after the 1906 Act. The first voluntary "occupational centres" appeared, in Paisley, being staffed largely by teachers from special schools (Scottish Education Department, 1973). The credit

for this development is due to a Miss Mary Russell whose work has been commemorated by the naming of a Paisley special school after her.

Thanks to the Mental Deficiency (Scotland) Act 1913, children with severe and profound learning difficulties were the responsibility of their parish councils which were the antecedents of the present local authorities and health boards. The period between the World Wars saw the development of Mary Russell's Paisley initiative throughout Scotland, coordinated by the forerunner of the Scottish Association for Mental Health (S.A.M.H.). The fact that the formation of the S.A.M.H. was encouraged by central government in 1921 (S.E.D., 1973) indicates that the days of excluding children with the most severe degrees of disability from special education were numbered. However, it took nearly a quarter of a century before educational provision reached statute. The Education (Scotland) Act 1945 required Scottish education authorities to make provision for "ineducable but trainable mental defectives" in "occupational centres". The provisions of this Act were no doubt in part a product of the work of the Committee of Enquiry which investigated the Scottish Mental Deficiency and Lunacy Acts between 1938 and 1946. Three details of the 1945 Act are particularly worth noting.

First, the word "trainable" appears, making a distinction between training and the "education" which was provided in the ordinary schools and in the special schools which were

set up by the 1906 Act. No attempt is made to tease out an essential difference between training and education in any S.E.D. document between the 1945 Act and the Education (Mentally Handicapped Children) (Scotland) 1974 Act which provided education for all. One official publication suggests that the difference lay in the content of education and training. The content of training was a set of skills which would "render (pupils) as self-reliant, adjusted and acceptable to normal society as (their) potentialities allow" (Working Party, 1961). Presumably the content of education was that which occurred in the ordinary schools.

Second, the 1945 Act did not neglect the most severely disabled children, that is, those who were "ineducable and untrainable". The Act did not consider that they would be able to benefit from attendance at occupational centres, though the S.E.D. clearly believed that they should be given trial placements at the centres to prove whether or not they had this ability (Working Party, 1961). Those who were eventually considered to be ineducable and untrainable were to be referred to the local health authority for placement in a "day centre".

Third, the new legislation required education authorities to have a concern for children from the age of only two years. The Education (Scotland) Act 1946, amended by the Mental Health (Scotland) Act 1960 required education authorities to notify health authorities of the existence of "untrainable" children at or above the age of two. The Act

also allowed parents of children who had attained the age of two to request the education authority to arrange a medical examination of their children. The education authorities also had officers of their own to carry out psychological examinations thanks to the 1945 Act. The Act empowered them to establish Child Guidance Services, thus stating "the importance in ascertainment procedures of the assessment of children by educational psychologists" (Committee of Enquiry, 1978, para. 2.44). The fact that a document written more than thirty years after the 1945 Act still saw work with preschool children as a new field for development by psychologists (Scottish Principal Educational Psychologists, 1981) should perhaps cause the Psychological Service some concern.

The major milestones in the forty years between the 1945-6 Acts and today are clustered between 1973 and 1978. An intense increase in interest in the abilities of people with learning difficulties occurred in the 1960s when it became clear that these people could learn many skills if they were taught systematically, using the principles of operant learning (see Chapters Eleven and Twelve). The labels "ineducable" and "untrainable" began to seem an untenable assertion, as may be seen in the book title "No Child is Ineducable" (Segal, 1974). The U.S.A. was a remarkably fertile ground for the new developments (Burrello and Sage, 1979), though there were also significant advances in Great Britain, especially through the work of the Hester Adrian

Research Centre, University of Manchester (Mittler, 1978). A
questioning of the nature of education and a concern with
civil rights also made it uncomfortable to sustain old
attitudes, practices and labels (Burrello & Sage, 1979;
MacKay, 1982, 1986).

One product of the forces for change was the setting up of
a Secretary of State's Committee in Scotland, under the
chairmanship of Charles Melville, Director of Education for
the County of Roxburgh, to consider staffing in educational
authority occupational centres and care centres, the latter
of which had been transferred from health authorities to the
new social work departments by the Social Work (Scotland)
Act 1968. Why be concerned about staffing in the centres?
The reason was that the majority of staff in the centres
were not teachers but "instructors". The "training" provided
by the 1945 Act did not require to be delivered by teachers
and consequently a corps of instructors was recruited for
work in the occupational centres. Initially, no training at
all was provided for them. Even today it is not necessary
for instructors (in the education authorities which still
employ them) to have any formal qualifications. In 1950
Jordanhill College of Education, Glasgow, began to provide a
six-week instructors' course spread, "sandwich" style, over
one year (Petrie, 1978). But the innovations (mentioned
above) which had been occurring in the education for
children with severe and profound difficulties eventually
made it clear that this type of training was inadequate. The

Melville Committee was formed in 1969, and in 1973 it
recommended to the Secretary of State the setting up of a
three-tier structure of staffing in occupational and care
centres. Melville saw the work of the centres being
organised by teachers who would be registered with the
General Teaching Council (Teachers (Education, Training and
Registration) (Scotland) Regulations 1967), and who would
undertake advanced training to qualify them for work with
children who had severe and profound learning difficulties.
The teachers would be aided by instructors (who would be
known as "assistants") and would undergo a two-year,
full-time training which would enable them to cooperate with
teachers. In turn, teachers and instructors/assistants would
be aided by attendants who would help in practical aspects
of caring for the children, such as toileting, feeding,
dressing and transport.

Melville's recommendations have never been implemented for
a variety of reasons which are beyond the scope of this
investigation. The current position is that many teachers
are now employed in the schools. Indeed, their numbers are
likely to be increased as a result of new staffing levels
which are being negotiated: if accepted, a ratio of one
adult (teacher or instructor) to 2.5 children would come
into effect (Scottish Joint Negotiating Committee for
Teaching Staff, 1985).

One-year full-time courses validated by the Council for

National Academic Awards are provided for advanced
teacher-training at Jordanhill, Moray House, Aberdeen and
St. Andrew's Colleges of Education. Instructors, who have
not yet become known as "assistants", may undertake a
one-year course validated by the Scottish Vocational
Education Council (SCOTVEC) at Langside or Lauder Colleges
of Further Education. No clear differentiation of teachers'
and instructors' roles has appeared despite Melville's
guidance. The picture may become clearer as teacher and
instructor teams become more common in schools, and as a
result of a complete revision of the instructors' course (by
a SCOTVEC committee during 1985-6) which reintroduces
Melville's idea of trained teachers' assistants.

Perhaps Melville's most important contribution was simply
an affirmation of faith in the educability of children with
severe and profound learning difficulties. This affirmation
was given substance a year after his Committee reported in
the Education (Mentally Handicapped Children) (Scotland) Act
1974, which entitled all children to education irrespective
of the severity of any disabilities they might have. The
1974 Act had near contemporaries in other countries: England
and Wales in 1970, the U.S.A. in 1975 and Norway in 1976.
The American Act, Public Law 94-142, has had an influence
well beyond its national boundaries on account of its
powerful declaration of the educational rights of children
with handicaps.

The Scottish 1974 Act led to the renaming of all occupational and care centres as "schools". This change was more than cosmetic. A survey of staff opinions, reported later in this investigation, revealed that teachers and instructors in the new schools were caused considerable anxiety by being required to provide "education" in a real school rather than "care" and "training" in a centre. The labels had changed but the children had not. The most profoundly handicapped children might be functioning at the developmental level of children in the first few days of life; the most able still had much more difficulty than their age peers in solving problems, learning new facts and processes, and in communicating in a wide range of situations in everyday life. Whatever their degree of learning difficulties, many of the children would also be affected by sensory and physical disabilities (Magowan et al., 1982; Browning, 1983). Yet they all had to be educated.

Probably the most significant publication on special education between 1974 and today was the Warnock Report, "Special Educational Needs" (Committee of Enquiry, 1978). This Report provided a comprehensive review of special education and made recommendations which are relevant to children with severe and profound learning difficulties, among others. The recommendations included proposals on identifying pupils "with special needs", on providing appropriate education, on the involvement of parents, on the provision of services which would offset the effects of

handicap, and on many other matters which might have been
associated with "care" rather than with "education". The
focus on children with severe difficulty learning had
changed from being a highlighting of a handicap so serious
that it prevented them from participating in the education
system of 1906, to a focus on meeting needs so that pupils
might, as far as possible

> "enlarge (their) knowledge, experience and
> imaginative understanding and thus (their) awareness
> of moral values and capacities for enjoyment; and to
> enable (them) to enter the world after formal
> education is over as ... active participant(s) in
> society and ... responsible contributor(s) to it,
> capable of achieving as much independence as
> possible".
> (Committee of Enquiry, 1978, para. 1.4)

The Education (Scotland) Act 1981 was the legislative
response to the Warnock Report. It has disappointed many
people in that it appears to do little more than require
what was standard practice in many education authorities:
identification of children with difficulties, consultation
with parents, and assessment by teams of specialists. Even
Warnock's "Named Person" (an import of citizen advocacy from
the U.S.A.) is reduced to a shadowy, feeble entity in the
1981 Act (McMurray, 1986; MacEwan, 1986). Perhaps the 1981
Act was simple a victim of the fact that "the three words
that appear most often in the White Paper (of the
corresponding English and Welsh legislation, writer's
parentheses) ... are not ... special educational needs, they
are Present Economic Circumstances" (Times Educational
Supplement, 8 August 1980).

For whatever reason, we have not advanced far from Warnock (O'Hagan, 1986), and Warnock's focus on the needs of pupils is likely to be the formative influence on special education for some time to come. But the rhetoric of "needs" causes problems of its own. The Warnock Committee examined the concept in two paragraphs only (3.19 and 3.40) and explained it in terms of provision of human and material resources, curricula, and a particular social and emotional climate (Tomlinson, 1982, p.75). Other writers fear that the focus on needs may serve only to shore up the status quo because the needs will be specified in terms of existing attitudes, practices and vested interests (Galloway, 1985; Gavine, 1985). In an unfortunate misprint, S.E.D. Circular 300 is said to describe special education as "a well defined arrangement <u>with</u> the ordinary educational system" (Petrie, 1978) instead of "<u>within</u> the ordinary educational system" (S.E.D., 1955). Warnock's special education was an integral part of the ordinary system, not a parallel system for disposing of anomalous pupils. Yet the system in which the children are educated does often seem to run along some distance from the mainstream. The schools have small numbers of pupils, and the maximum class size will soon be ten pupils (Scottish Joint Negotiating Committee, 1985). School hours and routines are different from those in the mainstream. There is a high proportion of staff to pupils. And, of course, nearly all pupils in special schools spend the greater part of the school day segregated from their age

peers in mainstream education.

Those who have power to define the needs of others and make provision for them do so against a background of history, politics, society and economics which permits no absolute answers (Tomlinson, 1982). This is the context in which we begin to consider the provision of curricula for children with severe and profound learning difficulties.

CHAPTER TWO

THE BASIS OF A CURRICULUM

Introduction

Within recent memory the work of staff in some of the former occupational centres was described disparagingly as "playing at wee schools". The reason for this dismissal was that children in the centres (and later, schools) might be going through the forms and rhythms of ordinary schooling such as having a daily timetable, sitting at desks, and being grouped in classes according to age, but they were being required to carry out activities which Warnock called "limited in scope and challenge" (Committee of Enquiry, 1978, 11.1). Common among these activities were formboards, simple jigsaws and cutting out photographs from mail-order catalogues.

It is too easy to be critical of these practices. The occupational centres of 1946-74 were established as something less than schools, staffed, in the main, by people who were less qualified than teachers. An outcome of something less than worthwhile education could have been predicted. But the concern about occupational centres did not end in 1974 when they were translated into schools. The same children were being served, the same instructors were working with them, and many people were not clear about the role of the teachers who were being appointed to the schools in addition to the instructors who were already in post. For example, several teachers encountered during the fieldwork

of this investigation had their duties restricted to individual lessons with the few pupils who might be expected to acquire some skills in reading, writing and number. Their pupils were withdrawn from, and returned to, classes under the control of instructors.

This particular problem has diminished, partly because of the increase in numbers of teachers coming into the schools and their reluctance to accept such a restricted role. But the problem illustrates the necessity for us to consider the nature of the curriculum provided for pupils with severe and profound learning difficulties. Is it like curricula for pupils in mainstream schools, or is it something different? "Special needs in themselves do not generate a curriculum" (Tomlinson, 1982, p.134).

This chapter will explore some basic assumptions about the curriculum in an attempt to discover guidance for the creation of curricula for pupils with severe and profound learning difficulties. It will do this from the starting point of an operational definition of curriculum which has been proposed by Denis Lawton. The definition has two aspects of curriculum. The first aspect is the content of the curriculum; this leads us to ask why children are educated. The second component is the implementation of the curriculum; this leads us to consider the historical origins of our current use of the term "curriculum".

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The definition

Lawton writes that "the school curriculum is essentially a selection from the culture of a society. Certain aspects of our life, certain kinds of knowledge, certain attitudes and values are so important that their transmission to the next generation is not left to chance" (Lawton, 1975, p.6). The two messages of this definition stand out clearly. The first is that the curriculum is a product of the culture in which it is set, and is intended to help sustain that culture. The second is that the curriculum is presented deliberately with the intention that the learner should have access to it.

Content of the curriculum

The selection of activities used by those who "played at wee schools" did reflect some values in our culture. For instance, the ability to read is a skill which we value highly. In mainstream schools, pupils who are unable to read may be set visual-perceptual activities which their teachers suspect may help them develop the ability to read real text. Formboards and jigsaws are visual-perceptual exercises, "therefore" they are worthwhile activities to carry out with pupils who cannot read as a result of severe mental handicap. In a perverse sort of way, it may even be argued that this type of activity is in accord with the principle of "normalisation" which has had a powerful impact on the sociology of services for mentally retarded people in the U.S.A. for more than a decade (Wolfensberger, 1972).

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Normalisation requires that provision for people with
disabilities (or who come from from other "devalued" groups)
should enable them to live lives which are as normal and
valued as possible, by means which are as normal and valued
as possible. Thus a watered-down version of education in
ordinary schools may be possible to defend because it
confers a veneer of normality on pupils with severe learning
difficulties. And this veneer may be quite robust. Parents
may see a glimmer of hope that their children's difficulties
are not so severe if reading is being taught; and teachers
working on reading and "pre-reading" are able to fall back
on a familiar body of skills and activities which they have
known from their pre-service training or even their own days
as pupils in primary school.

Fortunately, this imitation of primary schooling is not
acceptable in special education now. But this does not let
us escape from Lawton's point that what <u>does</u> go on is
considered to be so important by individual teachers,
advisers, administrators or Her Majesty's Inspectors, that
it ought to be transmitted.

What, then, should teachers and instructors see as being
of greatest importance for their pupils with severe and
profound learning difficulties? Probably it is the
development of as much "independence" as possible. "It is
unlikely that any ideas which do not relate to this aim
would find widespread acceptance among the teaching staff"
(Carden and Robson, 1985). This aim would certainly be in

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accord with the twofold aim of education which was proposed

by the Warnock Committee, cited above in Chapter One: to

enlarge pupils' knowledge, experience and imagination, and

to enable them to achieve as much independence as possible

once they have left school (Committee of Enquiry, 1978,

para. 1.4).

"Independence" is difficult to define, but we shall

probably not be far wrong if we see it as the ability to

carry out, without special help or permission from others,

the routines of daily living which are considered normal in

our society. These routines vary considerably according to

the age of the citizen, but they include the ability to

dress ourselves, to eat and drink, to travel, to communicate

with other people, to acquire and use money, and so on.

All of these skills are considered normal and valuable by

many people, but are they the content of a curriculum? They

are certainly different from the curriculum in mainstream

schools. Tomlinson considers that

> "it is the distribution of different kinds of
> knowledge and skill through the curriculum to
> different groups of children or the withholding of
> certain kinds of knowledge that largely determines
> their future status, social and occupational, in
> society. Those who are involved in curriculum
> decisions thus have great power"
> (Tomlinson, 1982, p.135).

Concentration on a curriculum aimed at acquisition of the

self-help skills mentioned above has several implications

for the pupils' "future status". It may enable them to cope

with the daily routines of life in their home, school and

immediate community more successfully. But will it deny them

the opportunity to learn about the world beyond these narrow confines, and will it deny them access to the range of practical, aesthetic and recreational experiences which are provided for pupils in mainstream schools?

Certainly, few pupils with severe learning difficulties would be able to participate in these activities at the same level of proficiency as most of their peers in mainstream education. But a curriculum which concentrates on self-help may never offer them this range of experience in the first place. Tomlinson's statement also reminds us that the school curriculum provides pupils with experiences which are likely to influence their selection of social, educational, recreational, aesthetic and occupational activities in adult life. A clear message emerges. We should recognise that the curriculum may restrict or enrich the lives of pupils, both immediately and in later life. A conviction that it is the duty of education to enable rather than restrict has resulted in the principle of "least restrictive environment" being enacted in the special education legislation of the United States (Blatt, 1979). This principle is sometimes interpreted simply as a plea for less segregation of handicapped pupils into special schools and units but, as we have just seen, it also has implications for the building of curricula.

Another aspect of the issue of independence should be recognised. It is concerned with dependence as seen from the point of view of the providers rather than that of the

recipients of help. Thus, the more social and self-help skills which people with disabilities acquire, the less will they be dependent on help from other individuals and finance from the public purse. The assumption being made is that acquisition of certain skills will enable pupils with handicaps to be less of "a constant burden" (Voysey, 1975) on their families and on the rest of us. The curriculum then may be seen to be a curriculum for the benefit of ratepayers and taxpayers. But of course this conspiracy theory does not apply only to pupils with severe learning difficulties. Radical philosophers of education would see it applying to the mainstream also (Apple, 1979; Bourdieu and Passeron, 1977; Lawton, 1981). Special educationists may avoid this minefield by remembering that the primary aim of the principle of least restrictive environment is to extend the civil rights of pupils with disabilities. The special education which they provide should enable pupils to lead a life which is as normal, open and dignified as possible. Later, it will be seen that the "normalisation" movement has provided guidance on the practical implications of accepting this principle. But it also worth recognising that principles such as normalisation and least restrictive environment stem from a fundamental conviction that people with severe learning difficulties are entitled to the status of full citizenship. The alternative status is stated lucidly and bleakly by Downie and Telfer.

> "It appears, then that we acknowledge three levels
> of concern. On the lowest levels are the animals,

>who are regarded as having a presumptive right not
>to suffer. ... Next we have what we may call
>"subnormal" humans, who are not accorded full
>respect but are not treated like animals either.
>(Again, they sometimes are, in practice.) ...
>Finally we have the normal humans who are accorded
>full respect. We may describe the distinction
>between the subnormal and normal human beings by
>employing the evaluative concept of a person to mark
>off those human beings who are worthy of full
>respect for the individual"
>(Downie and Telfer, 1980, p. 40).

If we accept that "subnormal" people are full citizens, then they are entitled to the rights of citizenship which include the right to education. An education which enables some people with handicaps to achieve greater independence and autonomy may well lead to lower public expenditure as a result of these people making less use of public services, but this should be seen as a bonus rather than as a matter of priority.

An interesting contrast between a society-centred view of needs and a person-centred view may be seen by comparing the official view of curriculum in Scotland with the view which proponents of the "normalisation" movement have of human services. In 1977 the Munn Committee recommended that the curriculum of the third and fourth years of secondary schools in Scotland should enhance pupils' knowledge, skills, social responsibility and self-development (Consultative Committee on the Curriculum, 1977). These four areas were easy to translate into terms which made sense in schools for pupils with moderate learning difficulties, the successors of the special schools which were established by the Education (Scotland) Act 1906 (S.E.D., 1981). They may

also be translated to suit children with severe and profound learning difficulties (MacKay, 1982). But Munn's proposal was essentially society-centred in that he was preparing a passport for successful admission to the adult world.

The point of view of the normalisation movement is different. It makes the value-judgement that people should live lives which are as normal and valued as possible by means which are as normal and valued as possible (Wolfensberger, 1972). It asks people to look at three aspects of provision for people with disabilities to ensure that this principle is being met. These are that

> services should aim to promote people's dignity rather than dehumanise them;
>
> services should respect people's age by avoiding responding to them as if they were older or younger than they really are;
>
> services should increase people's opportunities to participate in the activities of society at large, not cut them off from it
> (O'Brien and Tyne, 1981, passim).

It is often necessary to balance a society-centred (or "utilitarian") view of what is appropriate with a person-centred (or "humanitarian") view when public services such as education are provided. Perhaps the utilitarian is is the ascendant just now, as is the case frequently in times of economic crisis when powerful arguments may be made for accountability in the educational system's use of resources (Callahan, 1962; Kliebard, 1977b). But that type of approach is in danger of having a very narrow overview of the field to which it is applied. The Warnock Report itself

shows sign of this weakness. It covers the curriculum for

pupils with severe learning difficulties in a mere three

paragraphs (Committee of Enquiry, 1978, paras. 11.57-59)

which give no guidance on principles for the selection of

curriculum content, but which commend the highly accountable

objectives approach as the modus operandi. Ainscow, a strong

advocate of the objectives approach, sets out his

utilitarian curriculum as follows.

> "The era of unplanned curriculum in special
> education is dead and ... there is a recognition
> that planning can provide a range of important
> benefits. For purposes of discussion, therefore, I
> intend to use the term curriculum to describe the
> "what" of education, i.e., what it is the children
> are expected to achieve as a result of the
> experiences in which they participate. Following on
> from this, the how of education refers to the
> methods and organisation used and experiences
> provided by the school in order to bring about these
> achievements"
> (Ainscow, 1984, p.23).

"How" and "what" are considered; "why" is not. The result of

a lack of concern about "why" is illustrated in the findings

of a Schools Council project on teaching communication to

pupils with severe and profound learning difficulties.

> "Our own observation of teachers in the classroom
> led us first to think that the teachers' approach to
> the curriculum was conceived at the activity level;
> and few thought in terms of a philosophy of
> education from which aims and teaching content could
> be derived. There seemed to be a total acceptance by
> teachers of the activities on the timetable rather
> than questioning what they did and what it achieved
> for the children"
> (Leeming et al., 1979, p.45).

Thus far in the discussion there seem to be two forces

competing for prominence in the curriculum for children with

severe learning difficulties. One stresses deficiencies in

the pupils' repertoire of skills; the other stresses ways of responding to people which grant them the status of full citizenship. An exclusive emphasis on the first side of this dilemma may cause teachers to become preoccupied with narrow objectives which they do not question, and which they cannot set in a broader context. An exclusive emphasis on the other side lets them make a critical evaluation of the extent to which pupils are respected by those who provide them with education, but it gives no guidance on how to choose a curriculum which may subjected to this criticism.

A helpful way of resolving the dilemma has been proposed by D.J. Power.

> "I suggest that we need an alternative curriculum based on the principles of appropriateness to the learner's age and developmental level, to the social settings in which they live and to their view of and needs within that setting. In current parlance, I am calling for a curriculum that is "ecologically valid", that is, relevant and true to the children's lives within their own social milieux"
> (Power, 1981, p.436).

Power respects the utilitarian aspects of the curriculum by drawing attention to social and self-help skills, but he also respects the humanitarian aspects of personal development. He sees the principle of ecological validity applying across the total curriculum of subjects, though he believes that there is a group of "functional subjects" which are specially important for pupils with severe learning difficulties. He states that the most important of these are "language (both verbal and non-verbal), social skills of inter-personal conduct and manners, and "daily

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living skills"".

Presenting the curriculum

The second part of Lawton's definition of curriculum noted that transmission of the content of curriculum is not left to chance. The implication is that the content will be presented deliberately with the intention that pupils will learn it. In turn, the intention that pupils should learn implies that teachers have a clear view of what they want to teach. At this point it is helpful to consider the emergence of the term "curriculum" in the history of education.

The Oxford English Dictionary defines curriculum as "a course; specifically, a regular course of study or training as at a school or university". The definition has two points of interest for this investigation. The first, and more trivial of the two, is that "handicap" and "curriculum" share roots in horse-racing. "Handicap" first appears in 17th century English, but "curriculum", meaning a racecourse, has a more ancient origin, namely classical Latin. The second point of interest in the context of this investigation is that the O.E.D. credits the records of the University of Glasgow with the first use in English of "curriculum", meaning a course of study. The date of its appearance is 1633. The same usage may also have existed around this time at the University of Cambridge, and it had certainly appeared half a century earlier, at the University of Leyden (Hamilton, 1986). In an earlier paper, Hamilton

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shows that the translation of curriculum from racecourse to
unit of study fitted in well with new ideas about teaching
which were emerging in the 16th century. Like a race-course,
the curriculum had an overall form, which would be followed
in a systematic way, which had obstacles to be surmounted in
the same sequence by all participants, and which would
ultimately be completed (Hamilton, 1985).

Hamilton sees the introduction of the current use of
"curriculum" as a by-product of the Reformation. John Calvin
(1509-1564), the principal figure of the Reformation in
Switzerland, and a powerful influence on Scottish
Presbyterianism, was fond of Cicero's phrase "vitae
curriculum", in which life is compared with a racecourse of
obstacles. Hamilton suggests that "curriculum" may have been
introduced as a means of emphasising a new and lively
interest in the processes of teaching which took place in
16th century Europe, and which had intellectual ties with
Calvin and the Academy at Geneva.

By the middle of the 17th century, curriculum is
understood to be the presentation of a body of knowledge in
a form which pupils will understand. This knowledge will be
imparted in a logical sequence which draws attention to the
structure of the subject being taught. The curriculum will
probably take several years to complete, and it will be
presented to a group of pupils who are all at a similar
stage of development towards mastery of the subject. The

grouping of pupils into classes for efficient teaching had
been established in Europe no later than 1509, at the
College of Montaigu in Paris (Hamilton, 1985).

It is easy to relate the original 16th or 17th century
curriculum to the curriculum of school pupils or students. in
tertiary education today. A curriculum is still a course
which is likely to take several years, though the term is
sometimes used loosely. For example, Brennan (1985, p. 1)
notes that it has been equated with terms such as
"syllabus", "field of study" and "integrated learning". But
the following questions highlight problems which suggest
that neither the original curricula, nor those in modern
mainstream education, are particularly apt formats for
pupils with severe and profound learning difficulties.

> What knowledge is there to present to these pupils
> in a logical order over a period of between one and
> four years?
>
> Surely a predetermined sequence of passage through a
> curriculum fails to recognise that pupils with
> severe and profound learning difficulties have
> individual styles of learning and individual areas
> of knowledge and ignorance? (Of course, we should
> also ask if this differentiation among pupils is
> recognised in mainstream classes.)
>
> A physics syllabus will have a definite end point
> such as an "O" Grade examination, but are there any
> end-markers in the areas of curriculum for pupils
> with severe and profound learning difficulties?
>
> Should these pupils be grouped according to their
> ability to attain certain standards, and thus be
> likely to form a class with a wide spread of ages?
>
> Or is there a better educational case for grouping
> pupils of similar ages together for age-appropriate
> companionship?
>
> And are there not problems about grouping pupils

into classes because of the small rolls in many of
the schools?

These questions make the familiar curricula of primary and
secondary schools seem inapplicable to the needs of pupils
with severe and profound learning difficulties. Therefore,
it is helpful to look beyond these familiar forms by
considering the fundamental purpose of the curriculum,
explained in terms which are similar to those of Lawton who
was cited earlier in the chapter.

> "(I)t is impossible for the schools to present
> pupils with every learning experience which would be
> beneficial to them as adolescents leaving school.
> What is presented represents a selection from all
> the possible learning experiences that could have
> been chosen. It is this inescapable constraint which
> makes curriculum necessary and it is the presented
> selection that forms the curriculum"
> (Brennan, 1985, p. 21).

Brennan is saying that what matters in a curriculum is the
quality of the selection of experiences. Selection will take
account of a range of factors including the pupils to be
served, the subjects which may be taught, styles of
teaching, use of time, and so on. There is no need that the
selection which emerges for pupils with severe and profound
learning difficulties should resemble curricula for pupils
in mainstream schools: the appropriateness of the curriculum
will determine its form.

The process by which the curriculum is made appropriate to
special needs and circumstances is described as
"individualising" by Brennan (Brennan, 1985, p. 179). He
prefers to talk about an "individualised" rather than an
"individual" curriculum because he believes that it is a

more satisfactory term for describing the process of enabling the individual learner to attain general educational aims through the provision of appropriate experiences which take account of the learner's individuality. Indeed it is difficult to imagine that any curriculum could be <u>individual</u> because to be a curriculum it must be based on <u>general</u> principles of the purpose and aims of education. Individualisation makes the attainment of general educational aims more likely.

Brennan describes a continuum of devices which may be used for individualising a curriculum. They range from alterations in the pace by which the pupil moves through the curriculum (in the case of pupils who have mild difficulty learning) to "a seriously handicapped pupil following a totally alternative curriculum, but participating in social activities and corporate gatherings forming part of planned curriculum and contributing to hidden aspects" (Brennan, 1985, p. 180). However, he emphasises that even the greatest degree of individualisation rests on the assumption that there is a carefully-structured, formal curriculum based on general principles of what should be the educational aims for most of the pupils in a school. Individualisation gives access to this curriculum, and brings the attainment of educational aims within the realm of practicality.

Summary: principles to guide the building of a curriculum

Overview

The selection of curriculum content is not a cold, objective business if we accept Tomlinson's assumption that "the distribution of knowledge and skill through the curriculum largely determines the future status" of the learner. The specification of what pupils with severe and profound learning difficulties "need" from their curriculum is subjective and value-laden. This curriculum will have a powerful effect, for good or ill, on the place they occupy in society if teachers do manage to transmit what they think they are transmitting. Teachers build curricula on value judgements about their pupils, and so they should scrutinise their values carefully.

Principles for the selection of content

The normalisation movement provides a useful start with its general principle that it is good to have a life which is as normal and valued as possible, brought about by means which are as normal and valued as possible. The extent to which this principle is being met may be judged by asking if education is enhancing pupils' dignity, responding appropriately to their age, and encouraging their participation in open society.

Power introduces the helpful value of "ecological validity". The nature and level of activities in the curriculum should take account of the age and developmental

level of pupils. But it must also provide them with
experiences which are relevant and true to the settings in
which they live now, and those which they may encounter
after school.

Ecological validity is a useful concept but it should not
be interpreted so narrowly that it restricts the curriculum
to a narrow range of self-help skills. That restriction
would cut the pupils off from many areas of knowledge and
experience and thus, as Tomlinson warns, would affect their
status adversely.

Principles for the implementation of curricula

The curricula followed by present-day pupils and students
are based on principles of instruction which have a history
of more than four hundred years. It is important to remember
that these principles were responses to the needs of
teachers, learners and a social system. Consequently, the
exact forms of practice which the principles yielded are not
necessarily the same for every circumstance in which
education takes place. However, the issues to which these
principles were a response occur in a variety of educational
settings and are worth heeding.

Thus, teachers should strive to understand the nature of
the subjects which they are teaching. This principle may be
easy to apply in some of the practical self-help skills. It
may be very difficult to apply in areas such as
communication which are complex theoretically. The
complexity of the subject has to be respected if it is to be

taught faithfully. Yet teachers should also strive to tease out the component strands of a subject's complexity if they are to present it to their pupils systematically and intelligibly.

System and intelligibility will also be affected by the content and methods of instruction which teachers use, and by their groupings of pupils.

The next step

Teachers need to understand the subject matter of their curriculum, to know methods of teaching it, and to take decisions about how to pace and sequence it. These principles will now be used to examine how pupils with severe and profound learning difficulties may be taught to communicate. Communication was the area which Power (1981) chose to illustrate the principle of ecological validity. Probably there could not have been a more important choice. Carden's and Robson's teachers saw "independence" as their ultimate goal for their pupils. The ability to communicate enhances people's independence across the range of human experience. It is a valid focus of interest for this investigation.

CHAPTER THREE

COMMUNICATION: PROBLEMS OF DEFINITION

Introduction

"The most pervasive problems resulting from ... mental
retardation and other developmental disabilities lie in the
area of communication" (Lloyd, 1976, p. xi). Therefore it is
not surprising that improving the communicative ability of
children with severe and profound learning difficulties is
seen as a major priority in special education (see, for
example, Heward and Orlansky, 1984; Mittler, 1979; Power,
1981).

Concern about the communication of children with severe
and profound learning difficulties led the Scottish
Education Department to fund a curriculum project, "Early
Communicative Skills", at the Department of Education,
University of Glasgow, between 1978 and 1981. This
investigation examines issues which the project had to
resolve concerning the place of communication in the
curriculum for one group of pupils, namely, those with
little or no speech. The purpose of this chapter is to
clarify two matters of definition. The first concerns
definition of the group of children; the second concerns
definition of communication itself.

The pupils

There are several causes which may prevent a child from
developing spoken language. Some children are profoundly

deaf and are therefore unable to develop speech by listening to other people talking. Some do not speak as a result of emotional or psychotic conditions which cause them to isolate themselves from contact with other people. And some have neurological impairments which affect their control of the organs of speech or their development of the speech centre on the left side of the brain. The pupils considered in this study are a more heterogeneous group than any of the above. They may be affected by auditory, emotional or neurological impairment incidentally, but the principal characteristic which they have in common is that they have a general severe difficulty with learning. The quotation which begins this chapter acknowledges that problems in the development of communication are among the most common consequences of learning difficulty across the wide spectrum of people who have severe learning difficulties. This study will confine itself to one group within that population, namely, the children who were described earlier as having "little or no speech". This description may be made more specific by locating the group within two convenient marks on the continuum of the development of communication.

Pupils at the lower mark show no awareness of objects and people, and often seem to spend much of their lives asleep. Pupils with such severe degrees of handicap may be thought of as showing responses like those of infants in the first few days of life. They will eat and drink with reflex mouth movements, and will require other people to feed them. They

will not react to protect themselves from danger such as falling. Their movements will seem purposeless, though they may appear to change mood when they are held or talked to by their parents, or when particular types of music are played to them. Even that very early level would be an overestimate of the developmental level of a few, as there are accounts of very profoundly handicapped children who still retain the reflexes of unborn babies (W.I. Fraser, personal communication). These children would have negative I.Q.s if anyone tried to compute a score for them using the old formula based on "mental age".

The upper limit of communication for the group is the appearance of two-word utterances, the first production of connected speech. Typically, this mark is reached by children when they are about two and a half years old (Gesell, 1950). However, the mark will be reached much later than the age of two and a half years by many pupils with severe and profound learning difficulties, and some will never reach it at all.

The developmental range which is the subject of the investigation is therefore very short. Yet it is not possible to make any confident generalisations about the pupils covered by it as the group is diverse. The following examples illustrate this point.

> Some of the children have the intellectual ability to communicate at more advanced levels than they do, but their learning difficulties are aggravated by problems of vision, hearing, physical handicap, epilepsy or poor health (Hellier, 1978; Magowan et al., 1982; Browning, 1983). Parents, teachers and

other professional workers have to try to overcome these difficulties, and look for signs of responsiveness which may support their beliefs that such children have a higher, though elusive, potential.

Children with the most profound degrees of learning difficulty are unlikely to make noticeable progress along the continuum of development, irrespective of how long they may live. This creates problems for teachers, as they are trained to enhance children"s knowledge and skills and may therefore feel guilty about failing to demonstrate progress in their pupils. Even children who do make progress may cause problems if this progress is erratic or temporary rather than steady and predictable.

The pupils in the group come from a wide age range (Browning, 1983). Young children who speak in single-word utterances certainly fall below the upper mark, but will pass beyond it to more mature language as they grow older. But can these young children be regarded as similar to teenagers whose progress is stuck at the single-word stage?

Both groups have reached the same developmental milestone, but the experiences and interests of the teenage group are inevitably different from those of the younger children. As a result, their teachers must make a different quality of response to each group if the principle of age-appropriateness, mentioned in Chapter Two, is to be honoured in the curriculum.

Thus, the pupils who are being considered in the investigation fall within a very short and early section of the development of communication. But they are also drawn from a very wide range of ages, degree of disability, rate of progress, and physical characteristics.

The subject

"Communication"

The terms "speech", "language" and "communication" have all appeared in the preceding pages. They are often used as

synonyms in everyday speech, but it is important to distinguish among them. "Synonyms do not exist" (Voltaire, 1734) and therefore the place of communication in the curriculum may be quite different from that of language or from that of speech. In addition, many people have ideas about communication, language and speech and the way in which they should be taught. These ideas have found their way into the special education of children with severe and profound learning difficulties, as will be shown in subsequent chapters. The assumptions which underlie existing ideas about communication could exert a powerful bias on the shaping of a curriculum unless the meanings of the basic vocabulary are clear. Let us begin with a definition of "communication" as it is the subject of the investigation.

The Oxford English Dictionary defines communication as "the imparting, conveying or exchange of ideas, knowledge, etc." Perhaps this definition does not seem very helpful in the case of those people with mental handicap who cannot speak. Also, there are great problems about defining "ideas" and "knowledge". It is difficult enough to describe these concepts in people with a well-developed set of verbal and intellectual powers. To do this with school-age children whose intellectual level can reasonably be compared with infants in the first year of life is so speculative that the exercise seems hardly worthwhile.

But in fact, the O.E.D. definition will be shown to be quite robust later in the investigation. It is indeed valid

to talk about ideas and knowledge even when considering children with the most severe learning difficulties. But first, the meaning of "communication" in relation to "speech" and "language" should be clarified.

"Speech"

Speech consists of vocal symbols which represent ideas, such as knowledge, feelings and emotions. Thus there are three essential differences between speech and communication.

First, communication can occur without vocal sound being produced. Touch, gesture and other sorts of "body language" provide familiar examples.

Second, communication can occur without symbols being used. Babies can communicate that they are tired, hungry, sore and happy long before they show any understanding of speech or the ability to use it. The relationship of crying to communication is discussed more fully below.

Third, vocal symbols (i.e., spoken words and sentences) can be produced without any communication (i.e., sharing of ideas) occurring. This will happen if the two participants in a conversation do not speak the same language.

"Language"

Language, like speech, consists of symbols which represent ideas. However, it can be distinguished from speech in two important ways.

First, language need not be vocal as there are many visual

languages which have no need of sound. Semaphore, the
finger-spelling of deaf people and smoke signals are
examples which come to mind immediately. Thus there can be
language without speech.

The second major distinction between speech and language
is that "language" implies that there is a set of rules for
combining symbols into extended units of meaning. These
rules are called "grammar" or "syntax" according to the
circumstances in which they are being discussed. Thus there
can be speech without language if vocal symbols are produced
with no regard for the rules for combining them.

Beyond speech and language

This final section of the chapter returns to the definition
of "communication" as "the exchange of meanings" so that
this definition may be anchored more firmly in the context
of the investigation. In particular, the two concepts
contained in the definition, namely "ideas" and "exchange",
should be examined in more detail.

"Ideas"   "Ideas" are defined by the O.E.D. as "item(s) of
knowledge ... thought(s)". This definition of "ideas"
requires a little development here because " knowledge " and
"thought" may imply that the person who has ideas requires a
degree of consciousness to have them, and that is not a safe
assumption to make in the case of the most profoundly
disabled children covered by the investigation.

"Ideas" should be understood to cover a range of

functions. At one end of the range are ideas which an adult might express in words, such as "I am thirsty" or "That sentence was badly constructed". At the other end of the range are "ideas" which may be understood as subconscious reactions of the body's monitoring systems. For example, the verbal idea, "I am too hot", has a subconscious physiological equivalent in the body's system for responding to changes in temperature. Also, the verbal idea, "I see you", has a physiological equivalent in the "orienting reflex", a response to external stimuli which is evident soon after birth, and which is a root of purposeful and communicative behaviour. These latter examples show that "idea" has to be defined more broadly than in its everyday sense to accommodate the range of pupils considered in this study. We shall return to the theme of "ideas" in Chapter Four where they are seen to comprise wants, needs, awareness of relationships with people, factual knowledge and so on.

"Exchange" "Exchange" is the other component in the definition of communication. It is a useful concept as it helps to clarify some of the unique qualities of communication. In this section we shall see that although communication is the exchange of ideas, these ideas do not need to be expressed in speech or language. That point is important in this study as some of the pupils with whom it is concerned will never talk; and how do people exchange ideas if they have no language? In addition, the idea of "exchange" shows that communication is more than

interpersonal behaviour - people doing things with or to each other - because that activity may occur without any ideas being exchanged.

The characteristic of "exchange" is evident in communication soon after birth, possibly without child and adult being aware that they are sharing in the transmission and receipt of ideas. Trevarthen (1977) has shown that even very young children take part in a surprisingly large repertoire of exchanges with their mothers in spite of the limited range of expression which is available in early infancy. Pratt (1981) refers to research into mothers' responses to their infants' cries which shows the "role of the cry as an effective attachment behaviour which maintains contact between mother and child" (p. 3). Fraser and Ozols (1981) cite evidence that mothers of normal babies are more successful at detecting messages (such as frustration and hunger) in tape-recordings of babies' cries than at distinguishing their own babies by the sound of their cries alone. Bruner (1975) shows that preverbal infants develop the ability to judge what their mothers are looking at by watching their faces, and also the ability to direct their mothers' attention to what they (the infants) are watching. And Bates et al. (1975) have shown that preverbal infants use a variety of actions (including vocal sounds) to direct adults to perform for them, to provide things for them, or to pay attention to some object or event.

Adults respond to the early communicative acts of the

child as if they were intentional because they know that something needs to be done. They presume that there is meaning in infants' sounds and actions, even though they have to supply the meaning for these sounds and actions in the early days. But infants soon realise that their actions can control the behaviour of other people and, consequently, their messages become more deliberate, purposeful and identifiable.

Communication occurred in the examples above because ideas were exchanged between the infants and their mothers, and in spite of the fact that no speech or language was produced. There are many examples of speech without language in adult life too. An adult's whistle and shout are oral (though not verbal) acts which may let ideas be exchanged. Gesture and physical contact let adults exchange messages through actions which are neither verbal nor oral. Speech and language are certainly efficient and sophisticated means of communication, but they are not an intrinsic part of it; the exchange of ideas may occur without them.

The concept of exchange is also useful for clarifying the distinction between communication and interpersonal behaviour in general, for "communication" is not the same as "doing things with and to people". Interpersonal behaviour certainly occurs when Person 1 accidentally treads on Person 2's toes, but this is not an act of communication on the part of Person 1 for there is no exchange of ideas in the act of treading. Exchange of ideas would occur, though, if

person 1 notices the accident and apologises, or if Person
2, verbally or otherwise, draws Person 1's attention to the
accident. Examples of this issue are not difficult to find
in work with children who have severe or profound learning
difficulties. Interpersonal behaviour occurs when an adult
uses techniques of sensory stimulation with a child who has
profound learning difficulties, but opportunities for this
behaviour to become communication will be lost if the adult
does not respond to, or look for, reactions from the child.
Lack of reactions from adults to the spontaneous behaviour
of children with severe and profound difficulties has been a
familiar feature of life in long-stay hospitals (Oswin,
1978).

It is difficult to think of communication without an
"exchange" of some sort. Taken to one extreme, it is
possible to argue that communication occurs when we talk to
ourselves (for encouragement, comfort, directing our
actions, problem-solving and so on), for we are exchanging
one set of ideas for another. Indeed, talking to oneself is
given the status of communication by workers in the field of
early communication such as Halliday (1975) with his
"self-regulatory" behaviour, and Tough (1976) with her
recognition of the role of this type of speech in
problem-solving. But, at another extreme, it is difficult to
be sure that we have communicated with a person who is
powerless to make any sort of consistent signal as a result
of a severe physical disability such as a profound

quadriplegic cerebral palsy. Teachers working with this type of pupil sometimes worry that at best they are communicating the wish to communicate with the pupil and, at worst, that they may fail to notice the pupil's own efforts to communicate.

A person transmitting a message has not communicated until someone else has responded. Conversely, a person may not be transmitting messages intentionally, but may in fact be communicating because, for example, someone has overheard him speaking to himself and has responded to this. Thus, without awareness of an audience, people may talk to themselves, sigh, laugh or perform other actions which have the potential to become acts of communication if someone is there to respond to them. Children with the most profound learning difficulties may produce actions (such as crying) which adults will find hard to interpret. But the adult who looks for and tries to respond to these actions has taken an essential step towards giving the child the chance to exchange ideas, such as needs and emotions, with increasing clarity and intent in the partnership of communication.

The early levels of communication with which this study is concerned are well below the levels expected of children entering Primary 1 classes in Scottish schools. Many of the pupils considered in subsequent chapters will not acquire the communicative skills of a Primary 1 entrant, and those with the most profound difficulties may never attain the competence in communication of a one-year-old infant. But

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all of these children are entitled to education under the terms of the Education (Mentally Handicapped Children) (Scotland) Act 1974. How may the curriculum which they are offered take account of their levels of functioning and respond to their needs?

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CHAPTER FOUR

THE STRUCTURE OF THE SUBJECT

Introduction

Stenhouse (1975, p.1) uses the Shorter Oxford Dictionary
definition of "curriculum" as the starting point for his
discussion. A "curriculum" is a "regular course of study".
He expands this by adding the definition of "regular" as
"having a form, structure or arrangement which follows or is
reducible to some rule or principle; characterised by
harmony or proper correspondence between the various parts
or elements; marked by steadiness or uniformity of action,
procedure or occurrence; conformable to some accepted or
adopted rule or standard".

Is there scope for a course of study in communication
which has form, principle, harmony, steadiness and
conformity to standards, and which can take account of the
severe developmental delay of children with severe and
profound learning difficulties? There would certainly seem
to be a simple superficial structure, as there is a familiar
path of milestones through the development of communication.
For instance, children often begin to understand words
around the ninth month of life, to utter their first words
soon after their first birthday, and to use connected speech
when they are about two and a half years old (Sheridan,
1975).

This simple approach to communication is the basis of
several teaching schemes for children with severe learning

difficulties, as will be seen later in the study. However, the approach is concerned with the simple milestones alone and not with the functional aspect of communication as a sharing of ideas. Therefore it is not an area on which we need dwell to look for the "form, structure or arrangement" of the Dictionary's definition. Instead we shall return, first, to the view of communication which was proposed in Chapter Three to see if it is defining a subject which may be understood, and therefore taught, in an orderly way. Then we shall examine the act of communication to discover if there are rules which allow it to function successfully.

Structure in the function of communication

Communication is the sharing of ideas. Sharing is a conscious, purposeful activity. What sort of ideas do people try to share when they communicate?

One answer to this question was provided by a Schools' Council project aimed at developing the language of children in nursery and infant schools (Tough, 1973, 1976, 1977a). In "Focus on Meaning" (1973, pp. 11-27), Tough listed the following range of uses of communication:

* to collaborate towards agreed ends
* to project into the future, to anticipate and predict
* to project and compare possible alternatives
* to see causal and dependent relationships
* to give explanations of how and why things happen
* to deal with problems in the imagination and see possible solutions
* to create experiences through the use of the imagination, often making a representation through the symbolic use of materials
* to reflect upon own and other people's feelings.

A slightly modified version of this scheme was commended
by the Bullock Committee for "planned intervention in the
(primary school) child's language development" (Committee of
Inquiry, 1975). Tough later reorganised these uses of
communication in her manuals for teachers, and relabelled
them in the process. The revised labels are simpler
syntactically, though the meanings seem to have become more
obscure in the process of simplification. The revised list
of functions is as follows:

* self-maintaining
* directing
* reporting on present and past experiences
* towards logical reasoning
* predicting
* projecting
* imagining
(Tough, 1976, 1977a, passim).

Tough's classifications are based on the assumptions that
the children being taught are able to talk reasonably
fluently. They are not so helpful for classifying the
language of children who are at the earlier stage of
single-word utterances. However, another British author,
M.A.K. Halliday, has proposed a system for doing this. His
list of functions, based on observations of the single-word
utterances of his son Nigel, appear in Table 1. Explanations
and examples of the functions are included in the table
because the labels are difficult to understand in isolation.

TABLE 1

Functions of single-word utterances

Label	Purpose	Example in adult language
instrumental	satisfies speaker´s needs	"I want ..."
regulatory	controls others	"Do this"
interactional	fosters relationships	"Hello"
personal	expresses own uniqueness	"Here is what I think"
heuristic	increases knowledge	"Tell me why ..."
imaginative	creates own world of make-believe	"Let´s pretend ..."
informative	recounts experiences	"I´ve something to tell you"

(based on Halliday, 1975)

Functions as complex as these are recognisable in single-word speech, a stage of development which is near the upper mark of the range of communication covered by this investigation. But what about communication before words appear? Is it sensible to look for functions at preverbal levels also? The answer must be "yes" because the development of language appears to be the result of children having the need to communicate.

Bruner contends that children acquire language "as an instrument for regulating joint activity and joint attention" (Bruner, 1975). In short, it is a tool which they need to acquire. Bruner describes the development of early communication as the outcome of an increasingly complex structure of concepts which the child builds up through activities (such as play) with his/her mother, and through seeking and maintaining her attention. In Piaget´s psychology, the mother/child relationship was

significant than activity itself for the growth of concepts
(Piaget, 1936), but the outcome is the same. The child needs
to share ideas with other people. In addition, the arrival
of spoken language significantly changes children's ability
to organise their thoughts (Vygotsky, 1962) and regulate
their behaviour (Luria, 1961).

However, to dwell on these aspects of language would be to
shift focus towards its role in cognitive development. What
matters in this investigation is not the fact that
children's language helps them to understand the world by
allowing them to express their ideas about it in words. What
does matter is the communicative aspect of language.
Children have ideas and experiences which they need to share
with other people for purposes such as those in Table 1. The
ideas and experiences exist. Therefore the teaching of
communication must help them to share their ideas and
experiences by the means which are possible at their
individual levels of development.

And their ideas, actions and experiences exist before
speech develops. Examination of Table 1 will show that some
of the functions which speech fulfils verbally may also be
fulfilled nonverbally through action. For instance,
instrumental, regulatory and personal functions may be
performed by tugging at an adult's clothing, and the
interactional may be performed by smiling or by holding on
to the adult. Recognition of the inherent communication in
these actions created the "speech act" area of
psycholinguistics in the 1970s (Rees, 1978), and helped to

psycholinguistics in the 1970s (Rees, 1978), and helped to
re-awaken an interest in the functions of language, an
interest which had lain dormant since before World War II
(Morris, 1938).

The value of the "speech act" outlook in this
investigation is that it identifies a continuum of
communication extending from verbal stages of development
down into preverbal stages where the ideas and experiences
which are to be shared may be expressed through actions and
attention. Having crossed the barrier into the preverbal
stages, we can see a well-researched path of development
continuing downwards towards the level of newborn children.
Children who are very young developmentally have ideas as a
result of their own actions (Piaget, 1936; Bruner, 1974),
their perceptions (Bower, 1977; Bryant, 1974), their
relationships with other people, especially their mothers
(Bower, 1977; Trevarthen, 1977) and, at the most elementary
level, sensory stimulation (Heward and Orlansky, 1984).
These experiences are important for the children's cognitive
development, but they are also the roots of communication
for they generate the ideas which the children share with
other people.

The conclusion of this first section is that there is a
simple but sound structure in communication, namely, a
continuum of the "sharing of ideas" across the range of
development covered by the investigation.

A threat to the structure

Experiences may generate ideas and thus give rise to a need to communicate. But it is evident from everyday life that experiences are unpredictable and are changing constantly. It is also evident from everyday life that the need to communicate with other people frequently arises from changes in our experience. For example, we like to recount what has happened during the day, we have to ask for help as a result of an accident, we maintain relationships by responding to changes in the mood and appearances of our friends, and so on. Thus, flexibility is an essential quality of communication if it is to be effective in meeting the many different and unpredictable circumstances in which people will want to share their ideas.

Earlier we saw that the functional aspect of communication has a structure and therefore has a place in a curriculum - the O.E.D.'s "regular course of study". But we have just seen that communication is flexible as well as functional behaviour. "Flexibility" and "structure" do not coexist obviously. We should try to reconcile them, and not just for the purposes of satisfying the O.E.D. definition. Practising teachers will have difficulty finding direction, purpose and structure in teaching communication if every act of communication is unique. And every act of communication is unique, at least superficially, because it is a response to specific, immediate and individual circumstances. Bruner comes to the rescue. He describes language as a tool which

can "transform the regularities of experience with ... flexibility and power" (Bruner, 1964, p.4). Children form concepts and rules by being aware of "regularities of experience". Bruner was considering these regularities in the context of cognitive development in the quotation above. But we have already seen that communication and cognition have close ties at both verbal and preverbal levels of development. Language may strengthen rules and concepts, but they can be seen in preverbal children in the form of characteristic ways of solving problems, handling objects and other actions. These characteristic styles of activity cannot be coded mentally as words by a preverbal child. Instead they are coded as nonverbal rules of perception and procedure which have been called "schemes" by Piaget (1937) and later psychologists such as Bower (1977) and Stern (1977).

Language certainly enables children to have greater flexibility and power in their thought and their communication, but we have just seen that flexibility of response is also available before language in the form of the schemas. Communication and thought are therefore more than unique reactions to a multitude of unique experiences. They operate from early childhood through rules and concepts which are themselves being refined continually. The refining occurs through the "assimilation" of new experiences within existing rules and concepts, and by the rules and concepts being modified to "accommodate" new knowledge (Piaget, 1936).

These intellectual, perceptual and motor activities bring
order to the ideas which are the subject-matter of
communication. Sanders talks of ideas building up into a
"library of experience" (1976, p. 26). Like a real library,
the library of experience does not merely hold ideas. It
classifies them so that they can be grouped conceptually and
handled efficiently. And structure is implicit in the act of
classifying.

Rules of successful communication

We have seen that there is structure in the nature of
communication, and therefore it is an appropriate subject
for a curriculum. But there is also a necessity for
structure in the act of communication itself if ideas are to
be shared successfully.

Communication is unlikely to occur if the person
transmitting an idea has a different method of expressing
the idea from that of the person who receives it. For
example, very little communication would be likely to occur
in a telephone conversation between two people talking
different languages. What then are the principles on which
successful communication depends?

Sanders (1976) has argued that all methods of
communication should pay attention to three critical factors
if ideas are going to be shared accurately.

> First, the ideas should be represented in a set of
> symbols or signs which do not vary significantly
> from one occasion to the next.

> Second, the people taking part in the communication
> should be familiar with the symbols and signs of

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each other, and with the ideas the symbols and signs are intended to represent.

Third, the people taking part in the communication should be familiar with the accepted conventions for linking up symbols and signs so that a variety of ideas can be expressed.

(Adapted from Sanders, 1976, p. 12)

Thus, people communicate by constraining their ideas within a set of conventions which must be common to all parties to the communication. "Good" communication gives the recipients the exact ideas the transmitter wanted to put across. "Poor" communication will not put the ideas across. Sanders goes on to say that two methods are used to ensure that as much information as possible is "good".

The first method of ensuring good communication is that communicators should know their system of communication adequately. This happens if the communicators have learned the system and have practised it over a period of time.

The second method is to ensure that there is sufficient feedback between the communicators to provide "a continuous self-adjusting monitoring system" (Sanders, 1976, p.21) which will increase the chances of ideas being transmitted accurately. This feedback will include "redundant" information, phenomena which make information more intelligible by enhancing the basic message. For instance, we know from everyday experience that verbal messages contain much more information than a bare, written transcript of what has been spoken. A message may be reinforced by being repeated, rephrased, accompanied by gesture or mime, spoken loudly or softly, quickly or slowly,

or by having its key words emphasised. People use devices like these when they communicate, to ensure that their ideas are understood in the way they intend, and it has been argued that, far from being superfluous, redundant information makes communication intelligible and may be "the key to better communication" (Hsia, 1977, p. 63).

Thus, recipients in communication receive more information than the basic verbal message. They come to understand the message by making the best possible aggregate of the simple verbal information, the context in which it is received, and their understanding of the conventions of communication. Advice like this has made its way into the study of children with severe learning difficulties. For example, parents and teachers working with children who have just begun to speak are advised to ensure that their own speech to the children is in very short sentences; that they let the children hear often the words they want them to learn; and that they communicate with the children in an informal, rather than a didactic, teacher-like manner (Cheseldine and McConkey, 1979; Gillham, 1979).

Some people have difficulty in learning the conventions of communication as a result of sensory, neurological or developmental handicap. Others have reduced opportunity to experience the wide variety of forms in which information is transmitted, because their vision or hearing is impaired or because they live in institutions. All of these people are at a disadvantage because their scope for access to the conventions of communication has been restricted. However,

the important fact here is that conventions, or structure or rules, of successful communication do exist. Their existence means that communication is not an amorphous collection of unique events. It has form and structure, and it is bound by rules. All of these are qualities which this chapter set out to discover.

Coda

It is sensible to think of communication as being a subject with structure, and therefore as a subject which has a place in the curriculum. Bruner claimed that "any subject can be taught to anybody at any age in some form that is both interesting and honest" (Bruner, 1974, p.32). Is it possible to find a structure in communication that will allow it to be taught in an honest way to children who have such severe learning difficulties that they have little or no speech?

CHAPTER FIVE

VIEWS OF COMMUNICATION

Introduction

Chapter Four has shown that there is structure in the development, content and rules of communication. This chapter reviews the principal standpoints which have been taken in describing its structure in professional literature. The aim is to arrive at a position which does justice to the complexity of communication, yet gives it a coherent structure, and takes account of the learning difficulties of children with mental handicap. This interrelationship of content, form and theory has been noted by Bruner (1966). "A theory of development must be linked both to a theory of knowledge and a theory of instruction or be doomed to triviality" (p.21). Thus a theory of the development of language must be linked to a theory of what language is and what are its rules, and to a theory of how it may be taught.

Three principal views of the structure exist: a simple, developmental (or "milestone") approach; a behavioural view; and a psycholinguistic view.

The simple developmental view states a series of easily-observed milestones in a child's development of education. The behavioural approach assumes that communication is learned by experiencing and responding to the communication of other people. The psycholinguistic view of communication "is concerned with the relationship between

messages and the individual transmitting or receiving these messages" (Horman, 1970). These views will now be discussed in greater detail.

Communication as a series of milestones

This view of the development of language was probably the conventional wisdom of language specialists until the "psycholinguistic revolution" (Greene, 1972) of Chomsky's "Syntactic Structures" (Chomsky, 1957). Examples of highly developed forms of the milestones approach may be seen in the earlier writings of Osgood (1953) (whose later work on communication moved towards psycholinguistics and information processing), and in the writings of Shirley (1933) and Hurlock (1950). The milestones approach still exercises a strong influence in speech therapy (Reynell, 1976) and in the developmental charts used to gauge the progress of children with learning difficulties (Jeffree and McConkey, 1976a; Sheridan, 1975; Gibbs, 1982), and in the work of pre-school home teachers who visit the families of children with developmental delays (White, 1986). Parents, teachers and others who use developmental charts assign children to the milestone on the chart which comes closest to their current level of performance. Thus their use of the approach is based on an "impairment model" of education (O'Hagan and Swanson, 1984) which equates severe learning difficulty with slower development than that of the non-handicapped children on whom the charts are based. It is

assumed that the severity of the delay may be reduced if the children with difficulties could be helped to attain levels which are typical of the non-handicapped children (Cunningham, 1986). Teaching is then aimed at accelerating the children's progress to the next step on the developmental ladder.

This approach has many attractions. It uses one of the oldest procedures in mental testing: discovering if a child can carry out age-appropriate tasks (see Stones, 1966 on Binet and Simon). It is also a very "natural" approach - a history of salient events in the life of a child. Finally, it seems to have immediate relevance to the practice of planning goals for the work of a teacher. This last aspect will be returned to in a later chapter. The milestones approach is therefore popular for a number of reasons, and it is not surprising to find a report of it being used by 81% of a sample of pre-school intervention programmes (Bryen and Joyce, 1985, p. 14).

But the approach also has limitations. Referring to sequences of child development in general, Cunningham states

> "Generally, the hierarchical order of the behaviours is well established, but there are particular exceptions. ... Such discrepancies are even more noticeable with mentally handicapped infants. ... Such observations reinforce the contention that it is necessary to look at the particular behaviours in terms of the skills needed to attain them rather than normative placement on a scale" (Cunningham, 1979, p. 193).

Milestones of development may be as inflexible as milestones at the roadside. Communication is not a sequence of events

arranged in order of complexity. Acts of communication are responses to a wide range of unique circumstances in the life of an individual. Inevitably, "developmental data are incomplete, fragmented and often inconsistent" (Miller, 1978, p. 271).

Doubt has also been cast on the relevance of producing a curriculum which follows "natural" development too slavishly (Brown and Desforges, 1979). Certainly it is easy to ally the milestones approach to a theory of instruction (as Chapter Eight will show), and thus it can avoid Bruner's dismissal of "triviality". However, it can barely be thought of as a theory of knowledge as it has so little to say about the nature of communication. Therefore it does not seem to be a particularly strong base on which to build a theory of communication.

The behavioural view of communication

The behavioural view of communication is that language is learned. A classic description of how this occurred was made 60 years ago by F. H. Allport (Allport, 1924). However, the most significant exposition of language as a set of learned phenomena was B. F. Skinner's "Verbal Behavior" (Skinner, 1957). Skinner argued that the learning of individual words and the learning of the purposes of language could be explained in terms of operant learning: responses which are reinforced are likely to be repeated. Gradually, children develop enough skill to say words in a manner that is

accepted by the people round about them. New words are learned from overhearing conversations, from being read to and from formal teaching. The meanings of words are learned from hearing them in the context of words whose meanings are already learned.

Skinner's view of communication is easy to relate to Bruner's triangle of development, knowledge and instruction. There is a theory of development because (like the milestones approach) the behavioural approach has a clear sequence. There is also a theory of knowledge - "Verbal Behavior" presents a coherent, elaborated description of what language is. Finally, the behavioural approach is easy to link to a theory of instruction as will be shown in subsequent discussion of structured teaching, the objectives approach and behaviour modification (Chapters Eight to Twelve). Yet the behavioural approach to communication has some difficulties for this project.

The first difficulty is a very practical one. "Verbal Behaviour" does not give guidance on the development of communication before the onset of speech. This is clearly an important deficit in a project aimed at fostering communication in children who are still preverbal or who have such severe handicaps that they will never speak.

Second, Skinner does show that some aspects of language can be learned through imitation and modelling. Premack has demonstrated this principle in action more recently (Premack, 1976) using apes as subjects. Yet imitation does

not seem to be the most important preverbal faculty for determining a child's ability to speak. The drive to do things for oneself (Piaget's "means-end" behaviour) is much more closely correlated with acquisition of speech in preverbal children (Snyder, 1975).

Third, the behavioural view of communication is still not free from problems even when children have begun to speak. For example, Chomsky (1959) has argued powerfully that some of the most fundamental and beguilingly simple concepts of behaviourism are not at all stable or absolute when their limits are tested. Reinforcement is perhaps the most central aspect of Skinner's behaviourism, yet it too emerges from Chomsky's criticism as vague as any of the mentalistic concepts which are rejected by the behaviourists themselves.

In a B.B.C. Radio interview on 8 September, 1984, Skinner implied that he saw no point in replying to Chomsky as the criticism was a deliberate attempt to obscure a view of language which could not be ignored. At least some aspects of language are learned and can be taught. Perhaps the most impressive demonstrations of this have been made by the "neobehaviourists" (such as Guess, Keogh and Sailor, 1978) who have married operant learning to a psycholinguistic view of language. This still does not overcome the difficulty for this study that there is a scarcity of theory at the preverbal level of the development of communication. There are also important aspects of communication which the theory does not pretend to cover. We have seen that flexibility,

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unpredictability and purpose are important aspects of
communication in action. The behavioural approach does not
seem to address them directly, and therefore it is necessary
to investigate other possible bases for a curriculum.

Psycholinguistics

The problem is to find a sound theory which recognises that
there is purpose and flexibility in communication, and which
can support this principle at the earliest levels of
development. Purpose and interaction are the nature of
psycholinguistics. Therefore this is an essential body of
knowledge to review in the search for an overarching theory
for teaching communication.

Historically, psycholinguistics has been organised under
three main headings - semantics, syntax and pragmatics. The
remainder of this chapter will provide an overview of these
areas to discover if any of them contain the basis of a
satisfactory theoretical background for teaching early
communicative skills.

Semantics

> "Semantics deals with the relation of signs to their
> designata and so to the objects which they may or do
> denote"
> (C. W. Morris, 1938).

More simply, semantics is the study of meaning.
Understanding the development of meaning is clearly relevant
to the teaching of communication. Thus, semantics should be
a useful source of insight for teachers. The following
example illustrates that that is the case.

> A care-attendant was attempting to teach a girl to
> tell her when water was hot and when it was cold.
> The attendant felt that she was failing because the
> girl would not describe cold water as "cold" even
> although she had learned the word "hot" very
> quickly. As far as the girl was concerned, water was
> either "hot" or "not hot". She was not using the
> bipolar type of ideas that adults regard as normal
> and natural (Osgood et al., 1957; Kelly, 1955). The
> attendant was then told about the idea of "marked"
> and "unmarked" adjectives, or "antonymic word pairs"
> (Bowerman, 1978) and had no difficulty in
> understanding the theory which she was observing
> through practice.

Semantic theory was useful to her because it helped her make

sense of a practical problem. However, this same example

helps to illustrate the first of two reasons for not making

semantics the main basis for teaching the skills of early

communication.

This first reason is that the specific meaning of words

(and the meaning of gestured signs and symbols) is not the

only concern when teaching communication. This is obviously

the case when working with children who are not yet able to

understand symbols. Even when children have begun to speak

words, the specific words they use will often be less

important than the purpose to which the words are put. And

purpose is a principal characteristic of communication.

Semantics explained the girl's inability to provide a

"correct" response in the example above. But it could not

say whether or not "hot" and "cold" were purposeful words

for her to learn.

The second reason is that there are difficulties about

building a coherent structure of communication on semantics.

This is not surprising. For example, there is no strong,

indeed obvious enough, thread of continuity in semantics through the range from that of profoundly handicapped children who are functioning near the level of infants in the first few days of life, to that of children who have just begun to produce their first spoken sentences. Certainly it is possible to notice the expression of meaning in the preverbal actions of a child (Dore, 1973; Bruner, 1975; Bates, Camaioni and Volterra, 1975), but this becomes less and less possible the more we move towards the performance of children with profound handicap. To focus primarily on semantics would make purpose subservient to the meaning of signs and symbols. This would be unhelpful. It would be a departure from the essence of communication and it would take no account of the needs of children who are developmentally too young to use signs and symbols.

Syntax

Syntax is

> "the study of the syntactical relations of signs to one another in abstraction from the relations of signs to objects or to interpreters" (Morris, 1938, p.13).

In plainer language, syntax deals with the rules which govern acceptable combinations of words (and other signs).

School staff do identify problems which can best be understood in terms of syntax. For example, several teachers during the fieldwork of this project wanted to discover if there was a difference between a "two-sound utterance" and a "two-word sentence". One answer to this problem was to tell them about "presyntactic devices" (Dore, Franklin, Miller

and Ramer, 1976) such as two-part utterances consisting of a real word and a meaningless sound. These devices appear to prepare the way for genuine two-word sentences such as those of "pivot grammar" (Brown, 1976) in which the child will link a "pivot" word (e.g., "all-gone") to members of a set of other words (e.g., "juice", "Daddy", "car").

Syntax has other claims to be the base of a conceptual framework of communication. There is a recognisable sequence in the development of syntax as children move towards adult language. This is acknowledged in published schemes such as Project T.A.S.S. (Robson, 1980) which employ operant learning to teach children to use specific linguistic structures. However, syntax has little to offer across the entire range of communicative ability that was covered by the Early Communicative Skills Project. Syntax is an adequate base when children have begun to talk, and can usefully overarch concepts which are superficially semantic, as Chomsky demonstrated in "Syntactic Structures" (Chomsky, 1957). But it is not easy to trace a substantial line of continuity between early verbal syntax and its prelinguistic origins in the first few months of life.

There are also problems about keeping the purpose in communication to the fore when basing a curriculum on syntax. The following example, encountered in the fieldwork for this investigation, illustrates the point.

> A child was being taught hand signs as an
> alternative to speech. The teacher asked her to make
> the sign for "orange". The child made the sign for

"water" instead. The teacher repeated the request many times but "water" was the only sign the child would make. Finally, in exasperation, the child signed her first-ever two-word sentence - "drink water". She had a sore throat and did not want any lessons until she had been given a drink. "Water" was not a noun being signed instead of the noun "orange". "Water" was shorthand for the command, "Give me a drink".

The point to be made here is that the syntax of the utterance became clear after the child's meaning had become clear. The child had made a spontaneous utterance for a purpose. The purpose and the need to communicate existed independently of the syntax in which the utterance was couched at first. And the purpose of the utterance eventually compelled the child to produce the most advanced symbolic communication that she had ever made. Syntax is interesting and illuminating, but it does not seem to be the best starting point for teaching communication.

Pragmatics: defining the field

Pragmatics is the third major area of communication described by Morris.

"By "pragmatics" is designated the science of the relation of signs to their interpreters. ... Since most ... signs have as their interpreters living organisms, it is (sufficient) ... to say that it deals with the ... psychological, biological and sociological phenomena which occur in the functioning of signs" (Morris, 1938, p. 38).

This concern with function seems to come closer to describing the dynamic aspect of communication than does either semantics or syntax. Morris was writing nearly fifty years ago, considerably before the upsurge of interest in

psycholinguistics which followed the publication of

Chomsky's "Syntactic Structures" in 1957 (Greene, 1972).

There is no hint in Morris's text of the potential

practicality of pragmatics for teaching. However, Prutting

and Kirchner state that pragmatics re-emerged as an area of

interest in the 1960s, by a route which may be traced easily

to pre-war writing contemporary with that of Charles Morris

(Prutting and Kirchner, 1983, pp. 29-30). As a result of

what Prutting and Kirchner call a "paradigm shift", language

became "a theory of action ... words can effect change and

make things happen" (Prutting and Kirchner, 1983, p. 29).

What was the subject matter of the theoretical approach

which emerged?

> "Pragmatics is the field of study devoted to
> determining how children come to indicate with
> language the social ends they wish to accomplish.
>
> Social purposes include commenting, requesting,
> asking, demanding, blaming, excusing, denying and
> thanking."
> (Pease and Gleason, 1985, p. 118)

This definition restricts pragmatics to the study of

children, which is not an accurate reflection of the content

of a vast literature covering children and adults across a

wide range of communicative competence. However, it is more

important for this investigation that pragmatics should be

relevant at early levels of development. Another definition

emphasises this relevance.

> "Pragmatics refers to the use of language to express
> one's intentions and to get things done in the
> world. Even children at the one-word stage use
> language to accomplish various pragmatic ends; John
> Dore, for instance, found that such children used

> their single words to ask, demand and label."
> (Gleason, 1985, p. 22)

Rees (1978) notes an important refinement in the development of a pragmatic theory of signs: that of distinguishing between functions which are communicative and those which are non-communicative. The attempt to make this distinction recalls some of the difficulties discussed in Chapter Three, with reference to what constitutes an act of communication. Rees notes that early attempts to classify functions did not make the distinction between communicative and non-communicative, but she considers that the distinction should be made because it helps to show the importance of language (and, presumably, other signs) for "the dual development of the self both in itself and in relation to others" (Rees, 1978, p. 198; this writer's emphasis). The non-communicative functions relate to the development of the self; the communicative functions to the development of the social being.

Prutting and Kirchner (1983) and Rees (1978) credit Searle (1969) with one of the most important roles in achieving the "paradigm shift" to a theory of action, as a result of his description of the communicative use of language in terms of four "speech acts"; utterance, proposition, illocution and perlocution. These acts may be understood as follows:

        1 utterance act   concerned with the utterance of
                               words

        2 propositional act   concerned with referring and
                               naming

        (utterance and propositional acts are sometimes
        called "locutionary" acts, collectively: the
        "semantics, syntax and phonology of the sentence
        chosen for use" (Warren-Leubecker and Bohannon,
        1985, p. 345))

        3 illocutionary act   concerned with accomplishing
                               goals by acts such as stating,
                               questioning, promising, asking
                               and asserting

        4 perlocutionary act   concerned with the effects of
                               the actions of speech on the
                               actions, attitudes and thoughts
                               of others.

        (Based on Rees (1978), Prutting and Kirchner (1983)
        and Warren-Leubecker and Bohannon, (1985))

Pragmatics: relevance to this investigation

At first, the descriptions above, in common with most of

the literature on pragmatics, suggest that pragmatics is not

likely to be of much value in this study as the acquisition

of language is explicit in the explanation of the speech

acts, and explicit in the etymology of "locution" in

"illocutionary" and "perlocutionary". But there are also

hints of something more promising, for language is not

necessarily implicit in the term "utterance": all that is

implied is that a vocalisation has occurred, and

"vocalisation" covers a broader range of uses of the voice

than "speech" or "language". In addition, there was the

evidence in Chapter Three that communication may occur

without any use of the voice in grimaces, gestures and other actions. This point is recognised in the literature on pragmatics: for example, in a comprehensive review of the field, Rees (1978) notes that purpose may be communicated nonverbally, and that this fact is relevant when considering the communication of preverbal children.

> "The pragmatic functions (which) verbal utterances
> may serve may be fulfilled by other means also. To
> put it another way, some of the things speakers can
> do verbally can also be accomplished nonverbally ...
> (C)hildren are successful in communicating messages
> of various sorts before they have much, or any,
> control over the language."
> (Rees, 1978, pp. 220 - 221)

Thus, unlike semantics and syntax, pragmatics appears to take account of communication at its prelinguistic levels.

The review by Rees draws attention to two other aspects of the pragmatic view of communication which are relevant in this study.

First, pragmatics has provided guidance on <u>children who have delays and disorders of communication</u> which are associated with a variety of conditions including mental handicap, autism, disrupted fluency of speech, and specific disorders such as the aphasias. However, one problem with the literature reviewed by Rees is that it is concerned with the description and clinical measurement of disorders of communication and not with the teaching of communication; "(r)elatively few specific suggestions have been reported about how to train communicative competence" (Rees, 1978, p. 261: see also Fey and Leonard, 1983; Craig, 1983). There is another problem in Rees's review which has been encountered

earlier in the study. It is that the literature on pragmatics (in relation to communicative delay and disorder) is almost exclusively concerned with people who can communicate at the one-word level at least. Therefore the literature is concerned with a more advanced level of communication than that of an important part of the range of pupils considered in this investigation. However, a pragmatic influence on teaching communication to children with no speech may be detected in some studies where hand-signs (see Lloyd and Daniloff, 1983; Dennis et al., 1986) or plastic tokens (see Deich and Hodges, 1977; Lloyd and Daniloff, 1983) have been used for teaching children who have not acquired speech or are likely to be slow to acquire it.

The other aspect of pragmatics in Rees's review, which is particularly relevant for this investigation, is its concern with the <u>interaction of adult and child in communication</u>. Many authors, including Rees, regard Bruner's paper on the "ontogenesis of speech acts" (Bruner, 1975) as a landmark in the literature of understanding the significance of interaction in the development of children's communication. Bruner believes that the source of language is in early and universal functions, particularly those of shared attention and joint action between the child and adult. He cites research which shows that mothers tend to look where their babies are looking, and that babies themselves, even when as young as four months, will look where their mothers are

looking, especially if their mothers say "Look!" (or otherwise indicate verbally that something is to be watched). These shared experiences are the forerunners of the "speech acts" of later childhood.

Interaction in early communication is usually described as occurring in the "dyad" (two-person group) of mother and child. But there are implications for the more general dyad of teacher and child or adult and child also. For instance teachers should pay attention to the way they respond when children try to communicate. They should watch how the child responds to them. They can relearn (or perhaps learn for the first time) the psychological devices which mothers use to increase the likelihood of their children producing a more advanced form of communication (Cheseldine and McConkey, 1979). There will be further reference to these devices in Chapter Eight, but one familiar example is the "as if" behaviour which is described on p. 191-2 of the "Early Communicative Skills" manual (hereafter called "the Manual": see MacKay & Dunn, 1989). It occurs when a mother responds to a child's attempts at communication "as if" he/she had produced a more advanced form. Another example of a psychological device would be a mother setting up situations in which the child had an excellent chance of producing a "correct" response - a sort of contrived spontaneity. This is one of the approaches which Gillham recommends in his "First Words Language Programme" (Gillham, 1979).

pragmatics and functional analysis

It is worth observing that these psychological devices may be described as validly in terms of functional analysis as in terms of pragmatics. Does this observation make a case for reconsidering the behaviourist approach, or for equating pragmatics with functional analysis? It was suggested earlier that pragmatics is likely to be more helpful than functional analysis in this investigation because it seems to have the potential to accommodate the development of communication at and below the one-word stage. But if that is the only major difference between the two approaches it may not be important, for Skinner was prepared to apply functional analysis to nonvocal behaviour (such as gestures) as well as to spoken language. (Admittedly, it may be argued that to describe clapping as "verbal" behaviour (Skinner, 1957, p. 14) is to stretch the definition of "verbal" to its limits.)

The rest of the chapter examines the difference between pragmatics and functional analysis further. Superficially, the difference may seem subtle and academic, but it is important in the context of this investigation. The context is the task of making ideas about communication accessible to teachers so that they may develop that area of the curriculum for pupils with severe learning difficulties. This context is made more clear by examining the distinction which Skinner makes between pragmatics and functional analysis in "Verbal Behavior". Surprisingly, perhaps, the

distinction also helps to strengthen the case for using the pragmatic outlook as a basis for curriculum development in this investigation.

An examination of Skinner's "Verbal Behavior" gives no grounds for equating the pragmatic viewpoint with functional analysis. In fact, functional analysis offers a challenge to the validity of pragmatics and even to the idea of communication itself. At first this may seem strange as, superficially, pragmatics and functional analysis have much in common.

> "Behaviorists focus on the <u>functions of language</u> (this writer's emphasis), ... and the consequences of language performance. ... (B)ehavioral psycholinguists should not accept traditional categorisations of linguistic units (e.g., words and sentences) but should examine language as they would any other behaviour - searching for the functional units as they naturally occur, then discovering the functional relationships that predict their occurrence."

(Bohannon and Warren-Leubecker, 1985, pp.178-9)

According to this view, behaviourism and pragmatics appear to share a common interest in function. But this is not an accurate reflection of the views of Skinner himself. Certainly, he saw a close relationship between "communication" and "function" (e.g., see Skinner, 1957, pp. 7, 10, 44-5, 82 and 152), but he considered both concepts to be irrelevant for the understanding of verbal behaviour. For instance, he illustrated his argument by translating an essentially pragmatic account of vocalisation (by Jesperson) in terms of verbal behaviour.

"(V)ery early a child uses a long m (without a vowel) as a sign that it wants something ..."

becomes

"(V)ery early a child emits the sound m in certain states of deprivation or aversive stimulation."

And

"They do not use it consciously until they see that grown-up people, on hearing the sound, come up and find what the child wants"

becomes

"It is conditioned as a verbal operant only when people, on hearing the sound, come up and supply appropriate reinforcement."

(Skinner, 1957, pp. 44-5)

It therefore seems that the concepts of verbal behaviour and pragmatics have a lexical similarity because the first may be subjected to "functional analysis" (Skinner, 1957, pp. 1-12) and the second is concerned with the "functions" of communication. But "function" has a different meaning in each context. For Skinner, functional analysis is concerned with causes:

"the extent to which we can produce or control such behavior by altering the conditions under which it occurs"

(Skinner, 1957, p. 3).

"We must find the functional relations which govern the verbal behavior to be explained; to call such relations "expression" or "communication" is to run the danger of introducing extraneous and misleading properties and events."

(Skinner, 1957, p. 10)

In contrast, functions in pragmatics are terms or categories which help to classify the purposes of the

intents, the phenomena and the effects of communicative acts
(e.g., see Rees, 1978, pp. 199-200). Is it possible to
reconcile the two positions?

Skinner did not discuss "pragmatics" in terms of that
label in "Verbal Behavior", but it seems reasonable to
suggest that he would see the pragmatic functions as a means
of describing behaviour which can be described more
economically in terms of operant learning. Nevertheless, his
dismissal of "function" and "communication" does not nullify
the case for a pragmatic view, and "Verbal Behavior" itself
shows why this is so. Throughout "Verbal Behavior", Skinner
used mentalistic concepts such as "notion", "idea" and so
on. Why? He gave no reason, but presumably he believed that
these expressions would bring about change in the behaviour
of the reader. The following examples from "Verbal Behavior"
illustrate this point.

> The statement "Dinner is ready" is described as
> "functionally very close" to the command "Come to
> dinner!" But a "housewife" might use the first
> phrase if she felt that her children or guests would
> react unfavourably to the more directive tone of the
> second (from "Verbal Behavior", p.151).

> There are many examples of oblique ways of obtaining
> reinforcement in Skinner's description of
> "autoclitic" behaviour - "behavior which is based
> upon or depends upon other verbal behavior" (p.
> 315). For example, "I don't suppose you have a
> match" is a concealed form of "May I have a match?"
> which is itself a rather softened form of the
> command "Match please!" (from "Verbal Behavior", p.
> 317).

In other words, a particular type of verbal behaviour is
appropriate in a particular situation if it makes the reader
or listener respond in the way that the speaker or writer

intended. The aim of this study is to make teachers respond in a particular way, namely, to establish the place of communication in the curriculum more assuredly. Later, it will be shown that pragmatics may be expressed in less complicated language than may functional analysis. Thus its terminology should be less of a barrier to the professional development of teachers and the development of an area of the curriculum. Using the argument of "Verbal Behavior", the language of pragmatics may effect a desired type of behaviour in the response of teachers.

Accepting that as a possibility, let us consider briefly two differences between pragmatics and functional analysis which seem to be particularly relevant to this investigation and its concern with curriculum development. The first of these differences arises out of the complexity of the terminology and concepts of functional analysis, as described by Skinner. The second is the different focus of each standpoint.

We shall see that the functions of communication, which are the concern of pragmatics, may be expressed in language which is easy to understand, whereas functional analysis requires investigators to change their perception of communication and to learn a new technical vocabulary. Skinner argued that the simplicity of traditional concepts of communication was illusory, and that true simplicity could be found in functional analysis. For example,

> "(Jersperson's account of infant vocalisation) is
> simple because it is familiar and appropriate for

        casual discourse. It is the difference between the
        systematic simplicity of science and the ready
        comprehensibility of the layman's account."

        (Skinner, 1957, p. 45)

Of course, there is no virtue in having an easily-understood

system if the system itself is invalid. But functional

analysis has no superior claim to empirical validity

(Chomsky, 1959). Pragmatics should not be devalued because

it seems to be "appropriate for casual discourse". In the

context of this investigation, it must also be "readily

comprehensible" if it is to effect development of the

curriculum and of the understanding and practice of teachers

and instructors.

Perhaps a more important difference between pragmatics and

functional analysis lies in the subject matter of the two

areas of study. Both are concerned with the intent, the

phenomena and the effects of communicative acts, but while

pragmatics is concerned with the functions which these

fulfil, functional analysis is concerned with description

and analysis of the acts. This is where it is again helpful

to remember the context of the investigation: it is that of

developing an area of the curriculum. In that context,

pragmatics has a prior claim to give direction to the

investigation, for it seems to be more concerned with making

sense of the subject matter of communication. By contrast,

functional analysis gives guidance on how people control

their communicative behaviour and how this affects the

behaviour of others. Loosely speaking, pragmatics may help

to answer the question "What shall we teach?", while
functional analysis may answer "How shall we teach?" The
balance in this investigation must be towards the content of
the curriculum, and therefore towards the "What?" question
and pragmatics.

However, the analysis of the behaviour of people
communicating will not be ignored. The content of
communication and the communicative behaviour of people are
difficult to separate in practice. In addition, there is a
growing body of literature which uses insights from the
study of interactions between mothers and infants for
guidance on how parents and teachers of children with severe
learning difficulties may foster the development of
communication. A useful collection of these techniques has
been compiled by McConkey and Price (1986).

In summary, there are points of inevitable similarity
between functional analysis and pragmatics because of their
shared interest in communicative acts. Functional analysis
should give teachers useful advice on how to teach, but
"How?" is an inappropriate primary emphasis here, for the
investigation is concerned with developing an area of
curriculum and, therefore, with the question "What?".
Pragmatics is concerned with describing the purposes of
communication, and is therefore more likely to provide
answers to "What?" (and "Why?") questions. For that reason,
pragmatics should be a more helpful influence in this
investigation for guiding the development of understanding

and teaching of communication at and below the two-word stage.

Coda

Pragmatics appears to be a useful outlook from which to consider the teaching of communication. It seems to match the concept of communication which has been built up in Chapters Three and Four as a result of its basic assumption that communication is purposeful, consisting of acts which allow people to share ideas and exchange messages.

However, two points have still to be resolved. First, does pragmatics cover the whole range of communicative development from the virtual non-communication of a child with a very profound handicap to the stage of producing connected speech? Second, may pragmatics be expressed in terms which recognise sequence in the development of communication? Finding answers to these questions is so important for the teaching of communication and for the development of this investigation that the topic deserves a short chapter of its own.

Chapter Five

CHAPTER SIX

THE SOURCE OF A PRAGMATIC FRAMEWORK

Introduction

The previous chapter showed that there is a case for basing
a curriculum in communication on a "pragmatic" view of the
subject. This chapter attempts to solve the two problems
raised at the end of Chapter Five so that the case for a
pragmatic framework may be made more powerful. The first
problem concerned the ability of pragmatics to cover the
whole developmental range of children to be served by the
Early Communicative Skills Project. The second problem
concerned finding a clear sequence of childhood development
within a pragmatic framework.

A solution from the East

A solution to both problems can be found in a surprising
source - the literature on phonology, the study of the
production of sounds. The use of "surprising" requires
explanation. The study of the production of sounds should
have some bearing on the development of communication, but
for most purposes it is the province of speech therapists,
not teachers. The development of the sounds of speech has
little obvious relevance to the teaching of communication
after a child has begun to produce words. It also has
nothing to offer school staff on the development of
understanding.

Yet a most useful means of creating a framework of early

communication exists in the literature of this unpromising area. Nakazima, from the University of Kyoto in Japan, has outlined a small group of major milestones in the development of a child's communication in the first eighteen months of life (Nakazima, 1975). Superficially, he was describing sounds which are made in the first eighteen months but, more important, he was also describing the functions to which these sounds are put. If Nakazima's references to specific sounds are removed, there remains the basis of a strong framework which covers the whole spectrum of the development of purpose in communication from birth to the stage of connected speech. In addition, it covers this development in four stages only, a fact that will be important later in the discussion. Nakazima's four stages are as follows.

First, in early childhood, any sounds or actions which the child makes do not appear to have any communicative function. At best the sounds appear to be performances which the children put on for themselves, and there is no obvious way in which meanings may be associated with them.

Later, children enter a more advanced stage in which the need or intention to communicate with other people becomes much more obvious. Sounds and actions become more clearly purposeful, and this stage ends with the child obtaining, and sometimes directing, the attention of others by nonverbal vocalisations and by actions such as pulling an adult's clothing, or bringing the adult objects to look at.

In the third stage the child shows considerable understanding of the meaning of words spoken to him by adults. Thus he has begun to code the world in terms of symbols, even though he is not yet expressing himself by symbols. However, children appear to be intimating the onset of speech, as they are also beginning to imitate the speech sounds of adults at this stage. The imitation of adult words

is a very dramatic milestone in a child's development of communication. Perhaps this is why exercises aimed at encouraging children to imitate adults' speech appear in so many teaching schemes in early communication (Bryen and Joyce, 1985). Yet, the value of teaching children to imitate words is open to question on practical grounds, as we shall see in Chapter Eight, and on theoretical grounds also. For example, Snyder has noted the relative unimportance of imitation as a predictor of future verbal output when it is compared with means-end behaviour (Snyder, 1975).

At the fourth of Nakazima's stages children do use words to express their ideas. The words may be real adult words or idiosyncratic words which the children themselves have made up. What matters most is that the words are used spontaneously and consistently to refer to the same objects, actions, relationships and other ideas.

Nakazima's simple exposition captures the essence of the pragmatic approach to communication by showing that communication is a set of skills which children use to share ideas about themselves and their surroundings. This set of skills allows children to make flexible, adapting responses in the wide range of situations in which they have to communicate. And it is also important to note that Nakazima recognised that these skills change in character as the children develop.

Thus we have arrived at a point where the conditions of a useful theory of communication (outlined in Chapters Three and Four) have been met. The pragmatic approach says that communication is dynamic, that is to say, it is functional, flexible and responsive to change. We have now seen that Nakazima's framework can give the pragmatic approach a strong sense of developmental progression for it recognises that there is a range of functions which appear in

communication between birth and the time that a child has
acquired connected speech. Thus it can cover the
developmental range from the very early developmental level
of the most profoundly handicapped child to that of children
who have begun to communicate by speech.

Matching theory to practice: first steps

The pragmatic view of communication is that it is
purposeful. And Nakazima's exposition shows that
communication functions in different ways as children
develop. Are we therefore at a point where definite
components of a curriculum for early communication can be
proposed? Probably not, because we have not examined the
needs and attitudes of the teachers and instructors who
would be asked to implement the curriculum. This point is
stressed by William Reid in his advice on innovation in the
curriculum. Innovations should

> "vary according to the prevailing context within
> which curriculum decisions are made, according to
> the mechanisms which exist for making them, and
> according to the aims and desires of the society on
> whose behalf they are made"
> (Reid,1978, p.31).

The prevailing context consists of wide variety of practical
circumstances such as staff:pupil ratios, numbers of pupils
in a school, the professional training of staff, the quality
of equipment provided for work with the pupils, the finance
available for out-of-school activities, the views of
policy-makers (H.M.I., education officers, advisers), and so
on. It is important to be sensitive to this prevailing

context for two reasons.

First, part of the prevailing context consists of assumptions about education which may go unrecognised and therefore unchallenged. We have seen in Chapter Two that schools, classes and curricula were once a response to the needs of a society, though they now have a virtually unquestioned place in the education system. But if assumptions are not recognised and examined, it is easy to restrict the range of solutions which will be considered in response to problems in education. It may also mean that practices and attitudes which are faulty or irrelevant may not be noticed. Concern about overlooking basic assumptions led Reid to distinguish "curriculum research" from "curriculum development".

> "Development is concerned with getting things done
> ... research is liable to ask questions which if
> they were answered would delay action. It is also
> liable to reject the premises on which calls for
> action are made"
> (Reid, 1978, p.32).

The second reason for taking account of the prevailing context is that curriculum research and the innovations produced by it are supposed to be useful in that context. They should clarify issues and assist pupils and teachers. Theory and practice have to inter-marry. The possible has to be reconciled with the practical.

> "We match the norm and the ideal on the basis of a
> sense of what can in fact be changed and how that
> change can be brought about. If planning is not
> carried out in this way it becomes a purely
> theoretical exercise leading only to disappointments
> and frustrations"
> (Reid, 1978, p. 35).

What then is the prevailing context in teaching communication to children who have little or no speech? This question was tackled by means of a survey which will be summarised in Chapter Seven. The aim of the survey was to obtain clear guidance for the direction of the Early Communicative Skills Project. Nakazima's way of looking at the development of communication seemed sound enough as the base of a theoretical framework, but could it meet the needs of the schools? If so, how?

CHAPTER SEVEN

A SURVEY OF OPINIONS

Introduction

A possible framework for communication has emerged, but is
it of use to practising teachers? Do they have their own
perceptions of needs and wants? Do they have anxieties about
working with children with severe and profound learning
difficulties? What are their professional priorities?

As a result of problems like these it was decided to
investigate the opinions of teachers and instructors in the
field. This was achieved by a survey using a
repeat-interview approach based on the Delphi method
(Linstone and Toroff, 1975). The characteristic of this
approach is that a problem is clarified through a series of
consultations with practitioners and specialists in the
field which is under study. A report is prepared after each
round of consultations, and the findings of the report are
then submitted to the original, or perhaps another set of
consultants who give their reactions to it. A new report is
prepared on their reactions, and the process is repeated
until a satisfactory clarification of the original problem
emerges.

This chapter is concerned with the survey of opinions
alone. However, the cycles of "consult then redraft"
continued after the survey in the form of two attempts at
creating a curricular framework with materials to match it.

Aim of the survey

The aim of the survey was to clarify two problems. The first problem was to discover the existing place of communication in the curriculum of schools for children with severe and profound learning difficulties. The second problem was to discover what, if any, help teachers and instructors thought they required to enable them to teach communication more effectively. These problems were tackled in three phases.

Phase 1

Procedure

The first phase of the survey was an informal canvassing of opinion of a small number of educational practitioners. These included teachers and instructors in schools for children with severe and profound learning difficulties, educational psychologists and members of the steering committee of the Early Communicative Skills Project.

The purpose of this exercise was to identify broad areas of concern about the teaching of communication so that more specific questions could be posed in the second phase of the study.

Results

Examination of notes made during the informal discussions in this phase of the survey suggested that there were four major areas of concern about the teaching of communication which should be investigated in greater detail. These areas

are listed in Table 2.

<div align="center">TABLE 2</div>

<div align="center">Areas for investigation in Phase 2 of the Survey</div>

1	The materials and activities used in teaching.
2	Assessment of children's ability to communicate (short label: "assessment").
3	Classroom management.
4	Professional development of staff (short label: "training").

Outcome of Phase 1

The comments of the interviewees of this first phase of the survey were collated within these categories to act as the substance of an interview schedule for the second phase. This schedule appears as p. 26-29 in the original pagination of Appendix A.

<div align="center">Phase 2</div>

Procedure

Phase 2 of the survey was an attempt to formulate some preliminary answers to the two broad aims of discovering what place the teaching of communication had in the curriculum, and what help the teachers and instructors thought they required.

Eighty-three members of staff working in Strathclyde Region schools for children with severe and profound learning difficulties were interviewed by their local

educational psychologist or by the project's research officer. The representativeness of the sample is outlined in the description of Phase 3, below.

The schedule produced by the first phase of the survey was used to give the interviews some structure. However, the psychologists were encouraged, in preparatory meetings with the research officer and in the schedule's guidance notes, to make their questions open-ended so that as much information as possible might be gathered.

Results and discussion

The writer and the eleven psychologists who carried out the interviews prepared written notes on their interviews. The information in the scripts of the interview notes was collated and summarised as an interim report which appears later in this chapter as paragraphs numbered 1.0 to 3.2. However, some remarks are worth making before proceeding to that report.

One very clear theme in the notes was that staff saw the problems of daily practice in different terms from those of the interview categories of Table 2. In fact the teaching of communication did not appear in their responses as a unique issue of priority. From the start it was seen as fitting within the context of the curriculum in general rather than as an area of curriculum in its own right. In addition, the interviewees raised some issues which, though having an indirect bearing on the Early Communicative Skills Project, were beyond its remit to tackle.

The most difficult of these issues was teachers' and instructors' concern about each other's professional status. We have seen in Chapter One that the report of the Melville Committee (S.E.D., 1973) was a force for accelerating the introduction of G.T.C.-registered teachers into schools for children with severe and profound learning difficulties in Scotland. Yet, thirteen years after Melville there is still no explicit differentiation of the roles of teacher and instructor. The qualifications and training of teachers and instructors are quite different as Chapter One has shown. In addition, teachers have higher salaries, different conditions of service and different trade union representation from those of instructors. On the other hand, teachers may resent having their work directed by a non-teacher in those cases where the "head of school" is an instructor. Furthermore, teachers in Strathclyde Region are affected by an agreement between the local authority and the instructors' trade union which debars teachers from appointment to posts of assistant head in schools where the head of school is a teacher. In these cases, assistant heads' posts are currently reserved for instructors. Not surprisingly, these anomalies of educational administration have created acrimony. This was reflected in the responses of the interviewees, but its solution is beyond the remit of a curriculum project.

Initial inspection of the data from the interviews indicated that two revisions of the categories of Table 2

should be made in order to present the results faithfully.
The first revision was necessary because staff did not find
it easy or helpful to distinguish between the categories,
"classroom management"and "the materials and activities used
in teaching"; a single category would suffice. Therefore,
the four original categories of Table 2 could be reorganised
into a group of three. The second revision was necessary
because a number of staff were concerned about use of the
term "assessment". There were three principal reasons for
this. Some staff confused "assessment" with "ascertainment",
the statutory process of deciding whether or not a pupil
required special education. Others felt that "assessment"
had become too closely associated with the marking of
developmental checklists which many of them considered to be
of little relevance in planning work for their pupils. And
others felt that use of the term "assessment" might lead
staff to ignore other important influences on children's
learning such as the views of parents and the children's
ability to relate to people.

As a result of this initial inspection of the data an
interim report was prepared, focusing on the three sets of
issues which are stated in Table 3.

TABLE 3

The renaming of Table 2´s categories
as a structure for the interim report

Label in Table 2	Revised label
The materials and activities used in teaching Classroom management	Teaching the child
Assessment	Getting to know the child
Training	Training

The complete report may be examined in Appendix A, p.
447-456. It is summarised below, under the category headings
of Table 3.

1. Teaching the child

1.1 Many staff reported that they had difficulty

    discovering materials and equipment for teaching

    children with profound learning difficulties. Most

    published materials appeared to be too advanced for

    children with little or no language. This difficulty

    was aggravated by a general uncertainty about what to

    teach the children. In turn, this uncertainty about an

    appropriate curriculum seemed to have roots in doubt

    about the wisdom of granting all children the right to

    education. "Education for all children, irrespective of

    any handicap" appeared to some to be an emotive slogan

    rather than a practical proposition.

1.2   It is particularly difficult to find teaching

activities for children who have profound handicap and

for children with multiple handicaps. Mental handicap

causes severe learning difficulties, but these are very

likely to be compounded by sensory, physical and

neurological difficulties (Browning, 1983), and by .

difficulties of the autistic type which give children

many problems in relating to other people and in

understanding the world round about them.

1.3   Most of the interviewees stated that they taught

one-to-one at some time during the school day. Finding

a time and a place to carry out this type of teaching

frequently caused difficulties.

1.4   Nonverbal systems of communication were in use in a

minority of the schools where interviewees were based.

The most frequently used was the Makaton vocabulary

which is based on the British Sign Language used by

deaf people (Walker and Armfield, 1981; Byler, 1985).

The staff who used these techniques were enthusiastic

about their use. Interviewees in schools where they

were not used were occasionally not keen to learn about

the nonverbal systems on the grounds that sign language

might inhibit the development of vocal language, that

it would be of very restricted use in the world outside

school, and that it might be a barrier to the user's

social integration through being another "badge of

handicap". The first of these objections appears to

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have no foundation in fact (Jones, Reid and Kiernan, 1982; Reid, Jones and Kiernan, 1983), though there is more substance to the other two (Jones, Reid and Kiernan, 1982; Spalding, 1985).

1.5 Teachers and instructors felt that they should have more frequent contact with specialist teachers of children with visual and hearing disorders, and with psychologists, school doctors, speech therapists and physiotherapists. This contact would be used for obtaining more advice from the specialists on the practicalities of working with the children in school, and obtaining a fuller knowledge and understanding of the children.

1.6 Staff felt that they should have guidance on developing the use of apparatus such as the tape-recorder for activities with their pupils.

2. <u>Getting to know the child</u>

2.1 The majority of schools recorded children's progress by using a commercially-published chart or a mimeographed form. The most frequently cited form was the Progress Assessment Chart (Gunzburg, 1969) in one or other of its several forms. The Parental Involvement Project checklist (Jeffree and McConkey, 1976a) was commended by the staff who used it. The unpublished charts produced by Renfrewshire Child Guidance Service (Browning and Rutherford, 1975) were used in several schools in and beyond that county.

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2.2 Staff frequently referred to the difficulty of finding a chart which provided sufficient information about communication to assist teachers plan activities for their pupils. The large differences in levels of ability between steps on ladders of development was a frequent cause of concern.

2.3 Staff said that they needed training to help them go beyond the limits of their charts so that they could produce a more detailed picture of their pupils than the charts could yield. They required to be able to obtain and evaluate information on a variety of factors such as pupils' physical condition, their family background, their developmental histories, and the strengths and weaknesses of formal assessment procedures.

2.4 The nature of home-school links varied considerably among the schools represented. In most cases this contact was arranged for the purposes of promoting goodwill between parents and staff, though there were some comments about encouraging parents to become more active participants in their children's education. A "Parents' Workshop" (Cunningham and Jeffree, 1971, Browning, 1978) was cited as one method of achieving this.

There seemed to be very few home-school links in a number of schools. Some possible reasons for this emerged in Phase 3 of the survey.

3. Training

3.1 A course of lectures is not an appropriate way of
    learning how to provide an appropriate education for
    children with severe and profound learning
    difficulties. Practical advice and the opportunity to
    test new activities and approaches with the teachers'
    and instructors' own pupils would make better sense. It
    seemed as if the interviewees were asking for staff
    workshops along the lines of the parents' workshops
    mentioned in Section 2.4 above, though no teacher or
    instructor said this explicitly.

3.2 Staff in rural schools were especially concerned about
    the difficulties of taking part in in-service training
    owing to the difficulties of having to travel to and
    from centres where training might take place.

Outcome of Phase 2

   The principal outcome of Phase 2 was the interim report.
However, some proposals for action had begun to emerge
during examination of the interviewees' responses. Some of
these proposals were certainly within the scope of the Early
Communicative Skills Project. Others were probably beyond
it, though they seemed to be worth recording formally, in
the hope that they might be considered in future projects.
These proposals were incorporated in the interim report in
the form of nine recommendations which the interviewees were
asked to evaluate on a five-point Likert scale (Likert,

1932). The content of these recommendations is summarised in Table 4 and appears in full in the account of Phase 3, below.

TABLE 4

Recommendations emerging in Phase 2

Section of the report	Recommendation
Teaching the child	1 Establish an information bank 2 Outline schemes of work in communication 3 Take account of children with additional handicaps 4 Tuition needed on classroom management
Getting to know the child	5 Simple, effective assessment procedures 6 Promote home-school links
Training	7 Use a workshop model of in-service training 8 Develop a distance-learning course 9 Develop a distance learning course in preference to a workshop course

Reliability

The information on which the interim report was based was obtained from interviews which were structured only by the guide supplied to the psychologists concerned (see Appendix A). In addition, the collation and reorganisation of this information into the interim report was not assisted by any formal grouping procedure such as content analysis. Therefore there are several sources of difficulty for ensuring the reliability of the findings. For instance the basic information was a set of notes from twelve different interviewers who might be expected to introduce their own

different bias into the interviews "through the questions they ask(ed), or their perceived role and presence" (McCormick and James, 1983, p. 210). These difficulties could have been overcome to some extent by the use of tape-recording, though this was decided against in anticipation of meeting reticent interviewees and of the practical difficulties of transcription. McCormick and James (1983, p. 209) include these anticipated difficulties in a fuller list of problems with the use of tape-recorders in interviewing. The reliability of the information on which the interim report was based thus depended ultimately on the integrity and skills of the individual interviewers. Now, there are techniques by which more reliability might have been introduced into the process, and it is worth referring to these to find the extent to which this might have benefited the study.

For instance, reliability might have been increased if "the sequence and wording of the questions (had been) determined by means of a schedule and the interviewer (had been) left little freedom to make modifications" (Cohen and Manion, 1985, p. 293). We might have expected even greater reliability by removing the interviewer from the process and asking the interviewees to complete a rating scale or checklist with precoded questions (Cohen and Manion, 1985, p. 307). But there is a more fundamental issue to be addressed than the comparison of two systems of organising information. This becomes clearer when we examine examples

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of how information obtained from the interview schedules
might have been made more reliable statistically.

The existing report was based on a scrutiny and summary of
the responses of the interviewees to the questions of the
interview schedule. These responses could have been treated
by content analysis, "the basic goal of which is to take a
verbal, non-quantitative document and transform it into
quantitative data" (Cohen and Manion, 1985, p. 61). Two
examples of issues from the interview schedule provide
illustrations of how this method might have been used.

> First, there is the question on assessment charts which
> appears as B3 on Page 27 of the original pagination of
> Appendix A. The coding of responses to this question
> might consist of listing the names of charts generated
> by the question, plus "none" to cover the statements of
> those interviewees who said that no charts were used in
> their schools. Each interviewee's notes could then be
> examined for references to charts used by her, and a
> frequency distribution of charts in use could be
> compiled on the basis of this information. The
> reliability of scoring could be checked by obtaining
> ratings of the same notes from two or more raters and
> comparing the similarity of their ratings statistically.

Inter-rater reliability should be high in coding responses
such as those in the example above because the information
on which ratings are based is very specific. But some
codings and ratings are less straightforward as the rater
requires to interpret the information. Question B1, on the
same page of Appendix A, is an example of this second type
of item.

> The following scale might have been used to describe one
> section of the information which this question
> generated.

Attitude towards home-school links:

```
very much in favour ...
in favour            ...
ambivalent           ...
not keen             ...
opposed              ...
no opinion recorded ...
```

In this example, raters would examine the notes made in response to question Bl (and probably B2 also) and decide which of the five attitudes above could be inferred from the information given. Once again, the reliability of the resulting codings could be examined by an inter-rater comparison. However, reliability in this example might well be lower than that obtained in the question on assessment charts on account of the inferential nature of the task, though it might be raised by ensuring that all raters were provided with a set of criteria on which to base their ratings.

Statistically reliable information might have been obtained from these codings, but what advantage would it have brought? The first example would have given a frequency distribution of scales in use, but it is difficult to know how that information would have been useful as a guide in curriculum and professional development. In contrast, the qualitative information which emerged in interviews concerning teachers´ attitudes to checklists was more useful. There was worry and hostility about completing developmental charts and checklists. Staff had strong feelings that these practices yielded a low return for the time and effort expended on them, but still felt that they were under an obligation to persevere with them. Another issue which emerged from scrutiny of the notes was the wish for some sort of master-chart of communicative development which would be comprehensive enough to be applicable to all

pupils in the range at and below the two-word stage. Both of these issues had an important influence on the later development of the project.

Inter-rater reliability would have presented more difficult technical problems in the second example, concerning home-school links. Indeed, it is likely that the process of refining reliability would have resembled opening a Russian doll. Another layer of problems of reliability would have to be solved with the opening of each layer, but with less basic material becoming available in the process.

There are other reasons for having respect for qualitative data. The open-ended initial interviews allowed unpredicted and unsolicited information to emerge. For example, the unresolved partnership of teachers and instructors was one issue which emerged unexpectedly in the interviews and provided useful information. This information included a letter to the writer from the instructor head of one school, saying that the E.C.S. Project must surely be for teachers because instructors were already sufficiently skilled in the area under development. The strength of feelings expressed on the teacher-instructor issue indicated that it was vital to be alert to, and have respect for, the sensitivities of staff participating in the project if any real development was to take place.

In the end, the most honest resolution of the reliability of both the basic data (the written reports on the responses of the interviewees) and their analysis was to use a

technique of repeated consultation. The reorganised
information was returned to the interviewees in the form of
the interim report so that they might comment on it and
provide scaled ratings of a number of key points. This
practice seems to be in the spirit of a comment by O. R.
Holsti in his manual on content analysis:

> "(T)he coefficient of reliability cannot be the sole
> critierion ... As categories and units of analysis
> become more complex, they will yield results that are
> both more useful and less reliable".

(Holsti, 1969, p. 142)

Phase 3

Procedure

The interim report, incorporating the questionnaire on the
main recommendations, was sent to seventy-eight of the
original eighty-three interviewees. The "missing" five
interviewees were not consulted as notes on their interviews
were not received until after the report which appears in
Appendix A had been written. The seventy-eight interviewees
were asked to check the interim report so that they might
verify, alter or otherwise comment upon anything which had
been written. They were also asked to rate the nine
recommendations on the five-point Likert scale, and to
expand upon their ratings by additional comments when
appropriate.

Prepaid envelopes were included in the mailing of the
interim report. Seventy copies were completed and returned,
a response of approximately 90%.

Despite the loss of thirteen interviewees from the original group of eighty-three, the remaining seventy provide a usefully representative sample of the opinions of teachers and instructors. They were employed within Strathclyde Region where half of the population of Scotland live. They were drawn from the staff of thirty-four of the sixty-two schools in Strathclyde Region which made provision for children with severe and profound learning difficulties at the time of the survey. It is difficult to give a precise figure for the total number of staff in the schools from which the interviewees were drawn as some schools had part-time and visiting staff, and as some interviewees included attendants and auxiliaries amomg the members of permanent staff recorded on their response forms. However, the best estimate is that the seventy respondents (who included one speech therapist who was closely involved in the practice of teaching) were drawn from one hundred and ninety-nine members of staff in thirty-four schools. Thus approximately one member of staff in three was interviewed. A more detailed description of the final sample is provided in Table 5.

TABLE 5

Participants in the Survey of Opinions on the
Teaching of Early Communicative Skills.   111

	Head-Teachers Registered with G.T.C.		Teachers Registered with G.T.C.		Heads of Centre Not Registered with G.T.C.		Other Centre Staff Not Registered with G.T.C.		Speech Therapist		TOTALS	
	Number of Interviews	Number of Returned Questionnaires	Number of Interviews	Number of Returned Questionnaires	Number of Interviews	Number of Returned Questionnaires	Number of Interviews	Number of Returned Questionnaires	Number of Interviews	Number of Returned Questionnaires	Number of Interviews	Number of Returned Questionnaires
Interviewed by Project's Research Officer	7	6	16	14	11	11	17	15	0	0	51	46
Interviewed by Educational Psychologists	1	1	9	8	4	4	10	8	1	1	25	22
Self-administered Interview	1	1	1	1	0	0	0	0	0	0	2	2
TOTALS	9	8	26	23	15	15	27	23	1	1	78	70

* These rather clumsy descriptions were chosen as 'instructor-in-charge' and 'instructor' were not the job titles of all the non-registered staff.

** These teachers made a written response to the interview guide owing to the indisposition of their local psychologist.

Results and discussion

The distribution of interviewees' ratings of the
recommendations on the Likert scales are recorded below. In
addition to their ratings, staff were invited to add any
remarks which would let them make their opinions more
specific. A review of these additional comments of the
teachers and instructors follows each set of results.

Recommendation 1   An information bank is required to give
                      staff ready access to materials and
                      activities which have proved to be
                      helpful when working with mentally
                      handicapped children. This bank should
                      take account of the wide variety of
                      disabilities encountered among the
                      children.

                      I disagree   0
                      I do not think so   0
                      No opinion   0
                      I think so   1
                      I agree   69
                      No response recorded   0

Establishing an information bank was the most unequivocally acceptable recommendation. Staff who made comments additional to their score rating indicated that it might help to save time and money, especially when compiling the school's annual requisition, as they felt the need of access to reliable information about activities, materials and even furniture suitable for their pupils.

Some comments were made on the maintenance of such a bank. Two interviewees said that they would like to have the assistance of an adviser as a professional guide to the resources catalogued by the bank. Several other interviewees said that it would be important to keep the information in the bank up to date.

One interviewee stated that the bank might be used to allow individual teachers to broadcast helpful techniques and materials to a wider audience than colleagues in the individual schools where they worked. The bank might also be used to highlight areas of need in which development work was required: activities for older boys was a specific example.

Several interviewees said that an information bank should be able to be accessed by all schools, rather than solely by those who lived near the bank.

Unfortunately, the establishment of an information bank was beyond the remit of the Early Communicative Skills Project. An information bank dealing specifically with special education still does not exist, though a start has

been made with the creation of the Special Educational Needs
Database (S.E.N.D.) which provides special schools, adult
training centres, further education colleges' Special Needs
Departments and Child Guidance Services with information on
computer software and other electronic apparatus. S.E.N.D.
is accessed through a modem or Prestel link to an
information bank in the Scottish Council for Educational
Technology, Glasgow. The electronic "pages" of advice on
communication are among the most frequently read by users of
S.E.N.D. And, in accord with one of the needs stated above,
the establishment of an extension of S.E.N.D. to cover
teenage pupils and young adults is seen as a matter of
priority (Martin, 1986).

Recommendation 2   Schemes of work should be developed so
                          that school staff can see their teaching
                          in a medium- and long-term context.

                          I disagree   3
                          I do not think so   1
                          No opinion   0
                          I think so   10
                          I agree   56
                          No response recorded   0

    Several reservations were expressed about this
recommendation, but a consistent picture did emerge
eventually.

    Several of the staff who supported the recommendation
unequivocally said that useful schemes of work would give
them encouragement and confidence in setting goals for their
pupils to attain, and would help to give them a clear sense
of direction in their work.

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The case against schemes of work was equally simple. Long-term planning and the imposition of a complete programmed sequence of ready-made activities did not make sense in schools where pupils had a wide range of abilities and difficulties. Staff who made comments like this also indicated that schemes of work could be developed, but that they should be the product of careful observation of the individual children for whom they were intended.

These two poles of opinion may be reconciled. What seems to be required is the provision of support and guidance of a type which may be interpreted and implemented in the daily practice of individual teachers. This merging of support with the development of curriculum and professional practice is discussed at length by Stenhouse (e.g., 1975, Chapter 12) and in Chapters Eight, Sixteen and Seventeen of this study. It seems that the teachers and instructors who were interviewed in the survey required guidance on responding to the levels of development of individual children, and to other characteristics such as preferences, personal circumstances, disabilities and age. This would help them to create a curriculum which might be labelled "ecologically valid" for the lives of their pupils (Chapter Two, above; Power, 1981), including those who have a profound degree of handicap (Hellier, 1983).

In passing, it is interesting to note that a recent Scottish document on the curriculum for children with severe learning difficulties has endorsed Recommendation 2 by

advising teachers to set medium- and long-term goals for
their work with pupils (COSPEN, 1984).

<u>Recommendation 3</u>   Special attention to, and training in,
                           the needs of various types of multiply-
                           handicapped children should be given.

Participants were asked to rate the difficulties presented
by groups of children whose learning difficulties were
complicated by other factors. The results are as follows.

Conditions causing multiple handicap	This type of child presents no difficulties at all	This type of child presents hardly any difficulties	This type of child is sometimes difficult	This type of child is frequently difficult	This type of child is always very difficult	No response
1 Blindness or partial sight	1	6	16	12	17	18
2 Deafness or partial hearing	0	4	15	17	19	15
3 Profound mental handicap	0	1	8	12	41	8
4 Epilepsy	1	10	37	12	2	8
5 Other neurological impairment (e.g., cerebral palsy)	1	8	23	16	17	5
6 Severe circulatory disorders	3	12	25	4	4	22
7 Children who "cut off" into their own world	0	2	8	17	36	7
8 Overactivity or poor concentration	0	0	10	16	38	6

This recommendation was one of the more contentious parts
of the questionnaire for several reasons.

Many interviewees did not record ratings for certain types

of handicap as they had no experience of children affected by them. Others felt that a distinction should have been made between difficulties which made children awkward to teach and those which made them difficult to control. Some found the inclusion of "children with severe circulatory disorders" confusing in a questionnaire about children with learning, rather than physical, difficulties. However, the reason for including this category was the experience of meeting teachers who were concerned about the limits to which they could work with a child with a seriously impaired circulatory system.

Only forty of the sample of seventy interviewees assigned a rating to every one of the eight categories of handicap listed above, and therefore it is difficult to draw conclusions from the results with confidence. With that note of caution, it is suggested that the following points emerged from the responses to Recommendation 3.

> A broad distinction may be made between handicaps which require staff to modify their teaching techniques (e.g., difficulties with vision and hearing), and handicaps which cause concern as disorders of behaviour (e.g., severe withdrawal).
>
> The children who cause most concern are those who are very active and those who withdraw from contact with other people. These children make special demands on the ability of staff to establish contact which creates good conditions for learning.
>
> Children with profound learning difficulties also pose special problems for staff. It is hard to find a valid scheme of activities for children who seem to be able to learn so very little.

More comments were made on this recommendation than on any other in the questionnaire. The most frequently and

forcefully expressed was the view that it was unhelpful to
focus on specific types of handicap. It was better to focus
on drawing out the best from children than to focus on any
particular disability. However, it was also clear from the
comments noted above that staff should be helped to create
the best climate for learning with very active and with
severely withdrawn children, and to find purpose and
direction when working with the most profoundly-handicapped
children.

Recommendation 4 There is a need for in-service training
in classroom management in order that
one-to-one teaching may be carried out
more readily.

I disagree	2
I do not think so	12
No opinion	3
I think so	10
I agree	41
No response recorded	2

These results suggest that staff are broadly in favour of
receiving training in class management. However, analysis of
individual comments indicated that this was really a vote in
favour of being given time and opportunity to practise
one-to-one teaching. No one questioned the value of
one-to-one teaching in the supplementary comments, even
though responses from some individuals in the Phase 2
interviews had indicated a strong distaste for teaching by
behaviour modification, which they believed took place in
one-to-one lessons.

There were frequent references to the limits placed upon one-to-one teaching in schools which were not built for children with severe and profound learning difficulties. This problem was beyond the remit of the project to solve. However, visits to schools in the course of collecting interview data had shown that some schools were managing to create individual teaching areas in quite unpromising accommodation by use of partitions and other home-made devices.

Difficulties were also apparent at the time of the interviews as a result of poor staff:pupil ratios. Some schools had succeeded in effecting a 1:2 ratio by enlisting volunteers from the community and by drafting in caretaking and attendant staff for work with the pupils. Others had, or chose, to operate a 1:9 or 1:10 ratio. This issue is likely to become a thing of the past if a recommended ratio of one adult to three pupils is implemented nationally (Scottish Joint Negotiating Committee, 1985). But this does not overcome the issue of quality of schooling. For example, one study from New Zealand has indicated that staff:pupil ratio is less important as a determinant of progress in children with severe learning difficulties than are degree of structure in teaching, detailed planning of programmes and good home-school links (Sims and Bridgman, 1984).

Recommendation 5   In-service training should promote the
use of charts and other assessment
procedures which are quick and easy to
administer, and which should be simple
to interpret when completed. These
charts must give a realistic description
of a child so that teaching may be
geared to his needs.

I disagree	2
I do not think so	1
No opinion	0
I think so	3
I agree	64
No response recorded	0

This recommendation was approved almost as unequivocally
as Recommendation 1. Typical comments supporting it were
"The more time spent on chart-keeping, the less time left
for teaching" and "Equal emphasis must also be given to
practical teaching techniques and activities; we are
punch-drunk with charts and bits of paper".

One note of warning was sounded by a teacher who believed
that "charts and assessment procedures that are quick and
easy to administer cannot give a realistic description of a
child or his needs". This comment illustrates the dilemma of
assessment by some of the charts which are in common use, as
even the most detailed of these seem to lack depth when
taking any specific child into account, or when
investigating any specific area of development such as
communication.

This dilemma occurred because no chart provides sufficient
reliable developmental milestones to build up a
comprehensive picture of any one child in the degree of

detail which school staff seemed to require. The dilemma may also have been created by staff accepting the milestones approach too readily, without questioning if there were other ways of assessing children.

Thus it appeared that the project should devise a more effective method of assessing children's communication. The milestones approach provides a too static picture of communication; it does not take account of the fact that communication is an interactive activity which should be assessed by studying people communicating with each other (Zelazo, 1982; Gaussen, 1984; Gaussen and Stratton, 1985). It seems more sensible to study communication by the "ecological" approach of investigating how children understand the world round about them (including their understanding of words and other symbols), and how they communicate with other people in everyday life (Rogers-Warren and Warren, 1977; Beveridge and Brinker, 1980). This approach would be in accord with the pragmatic view of communication which was outlined in Chapters Five and Six.

Recommendation 6   In-service training should recognise the part parents can play in the education of severely and profoundly mentally-handicapped children. Staff require assistance in developing the educational aspect of home-school links.

I disagree	2
I do not think so	1
No opinion	2
I think so	11
I agree	54
No response recorded	0

The distribution of these results appears to indicate a commitment to home-school links. However, the comments of individual staff indicated that many of them (including people who chose "I agree") were unconvinced that there could be educational advantages for the children from greater parental involvement. Some interviewees were clearly opposed to it on any grounds. Two recent studies of Scottish special education have shown that the matter of parent-professional links is still a cause for concern. Ennis (1986) has shown that parents of children and young adults with mental handicap feel frustrated in their attempts to express opinions about their children's educational needs to the staff of schools, further education colleges and training centres. They also feel that they have been misled by what local authority personnel have told them that these establishments would provide for their children. And Johnstone (1985) has noted that parents often feel ignored and powerless in the Recording procedure (Education (Scotland) Act 1981) which produces a statement of children's special educational needs. Yet this procedure has a legal requirement that parents should participate in the process.

There is no shortage of evidence that many parents are, and other parents may become, very effective at teaching their children to communicate (see, for example, McConkey and O'Connor, 1982; Mittler and McConachie, 1983). Skilled school staff who are trusted by parents have an opportunity

to develop an educational partnership which operates at home and school. The corollary is that a better understanding of how the children behave and are treated at home may be helpful in planning their school education. Staff who are wary about contact may be more inclined to develop links if they believe that they have skills and knowledge which they may pass on to parents. Two promising areas are knowledge of children's development of play, communication and problem-solving (Skidmore, 1982), and how to elicit more advanced levels of these activities (Cheseldine and McConkey, 1979; McConkey and Martin, 1983).

Recommendation 7   In-service training should develop along workshop lines so that staff may have practical ideas which will help them understand children better.

I disagree	1
I do not think so	3
No opinion	0
I think so	4
I agree	62
No response recorded	0

Recommendation 8   A postal course for independent study should be developed.

I disagree	5
I do not think so	1
No opinion	1
I think so	14
I agree	49
No response recorded	0

Recommendation 9   A postal course should be developed in
                   preference to a workshop course for all
                   staff, whether or not they live in
                   remote areas.

                   I disagree   50
                   I do not think so   11
                   No opinion   1
                   I think so   1
                   I agree   6
                   No response recorded   1

The additional comments on these recommendations
emphasised the message in the ratings: a workshop would be
the preferred method of in-service training. This opinion
was expressed at least as strongly by staff working in rural
areas as by those living in areas of greater population. The
workshop offers opportunities for shared learning and
exchange of ideas among experienced staff and, especially
for staff working in small or rural schools, the rare
opportunity to talk professionally with colleagues working
in the same field.

There was no evidence among the interviewees´ comments
that creating a distance-learning course was a matter of
priority, though neither was any opinion expressed against
this. Several interviewees raised the aspect of curriculum
theory and practice which was mentioned earlier with
reference to Recommendation 2. They said that the content of
in-service training and curriculum materials was more
important than the format in which they were presented.
Training and materials should be a response to the needs of
staff, and should be based on a foundation of practical work

with children. Recent proposals for the development of
in-service training in England and Wales (Department of
Education and Science, 1985) seem to indicate that there
should be support for this policy through development of
school-based consultations as a means of professional
development. Training would thus be as closely linked to the
daily practice of teaching as possible. However, the success
of this type of exercise may depend on proper support from
local authority administrators and advisers (Mittler, 1986).

Outcome of Phase 3

The outcome of Phase 3 was a set of revised
recommendations which would act as reference points for the
development of curriculum for the children covered by the
study. Seven recommendations appeared in the final report of
the survey (Appendix A, Dunn and MacKay, 1979). Six of these
are cited below: the first of the seven has been omitted as
it dealt with the information bank and is therefore outside
the scope of this study.

Revised Recommendation 1
(from interim Recommendation 2)

Schemes of teaching early communicative skills should be
prepared. These should be set in a developmental framework
so that they are not seen as isolated units of teaching, but
they should be sufficiently flexible to take account of
different rates of progress.

Revised Recommendation 2
(from interim Recommendation 3)

The Project should give guidance in the practice of

systematic teaching. This will help staff to set realistic objectives for the children and to create conditions in which learning has the best chance of occurring. It will also help them to acquire techniques which will make their objectives more easy to attain.

Specific training is required in

the management of overactive and severely withdrawn children;

the devising of activities and materials for working with profoundly handicapped children.

Recommendation 3
(from interim Recommendation 4)

Activities which can be carried out with groups of children should be devised.

Recommendation 4
(from interim Recommendation 5)

The Project should present assessment procedures which describe the abilities of children in a manner which leads to the prescription of suitable activities for them.

Recommendation 5
(from interim Recommendation 6)

The Project should consider the educational advantages of home-school links.

Recommendation 6
(from interim Recommendations 7,8 and 9)

The Project should aim to develop the skills of experienced staff in a format which combines the study of recent advances with practical exercises and opportunities to discuss the problems of practice with colleagues working in the same field.

Conclusions from the survey

The recommendations of the survey indicate that the teachers
and instructors wanted instructional materials for teaching
communication. The comments and ratings on which the
recommendations were based offer some explicit advice on the
form these materials should take. They should ...

> ... follow clearly-charted continua of development
> ... they should tell staff exactly what to do when
>   teaching
> ... they should give advice on teaching children
>   with the most severe degrees of handicap
> ... they should promote a structured, systematic
>   approach to teaching.

But do these recommendations tell us anything about the
way teachers and instructors see communication? It appears
that they do not. Instead, the survey seems to indicate that
teachers and instructors have not stopped to ask themselves
what communication is. They were not sure of what they were
doing and they wanted to be told what to do. Some of them
were very worried about educating children with the most
severe degrees of mental and physical handicap. The
Education (Mentally Handicapped Children) (Scotland) Act
1974 had told them that all children are to be educated.
Therefore, they wanted to be able to show that they had
taught the children something. In this context,
communication was seen simply as a set of skills which could
be taught by systematic instruction. The staff did not make
any real distinction between the nature of communication and
the nature of other skills such as feeding and dressing. It
was just one other area of deficit for children with severe

learning difficulties. The job of the teacher or instructor seemed to be in danger of degenerating into reducing deficits by teaching the children the skills they "needed" to acquire.

It is easy to understand that staff should respond to problems rather than to the subjects of a curriculum. The children they are dealing with certainly do have severe difficulty learning. Many of these children may at first appear unable to learn anything at all. Yet teachers and instructors are under pressure to show results in the form of pupils' progress. Segal said that "no child is ineducable" (Segal, 1974). The Melville Report (S.E.D., 1973), the Warnock Report (Committee of Enquiry, 1978), the Education (Mentally Handicapped Children) (Scotland) Act 1974 and the U.S.A.'s "Educating All Handicapped Children Act" (Public Law 94-142, U.S. Government, 1975) all said that access to education was the right of all children, irrespective of the severity of any disabilities they might have. The job of teachers and instructors is therefore hard enough. Why make it harder by asking them to think about a theory of communication?

If there is a view of communication that comes across in the survey, it is this. Communication is what existing teaching schemes in communication say that it is. The point can be illustrated by relating the recommendations of the survey to what is available in books and kits. For example, it is not difficult to find teaching materials which are ...

... set in a developmental framework (Recommendation
    1): see Jeffree and McConkey, 1976b; Bricker and
    Bricker, 1970; Kent, 1974;

... aimed at encouraging systematic teaching
    (Recommendation 2): see Jeffree, McConkey and
    Hewson, 1977b; Popovich, 1977; Neisworth and
    Smith, 1973; Watson, 1973;

... directed at children with severe mental handicap
    or behavioural difficulties (Recommendation 2):
    see Van Witsen, 1967 and 1977; Sloane and
    MacAulay, 1968; Stevens, 1976;

... suitable for work in groups (Recommendation 3):
    see Stevens, 1976; Leeming et al., 1979.

The previous chapter ended by asking questions about the

"prevailing context" in the teaching of communication. The

opinions of this Scottish sample of teachers and instructors

indicate that it was similar to that which was encountered

in the Schools Council Study cited earlier; "acceptance of

the activities on the timetable rather than questioning what

they did and what it achieved for the children" (Leeming et

al., 1979). It is therefore important to consider what are

"the activities on the timetable" for communication, as this

will indicate which theories of communication underpin these

activities and materials. How does it compare with the view

of communication which emerged in the earlier chapters of

this study?

CHAPTER EIGHT

TEACHING APPROACHES IN EXISTING COMMUNICATION SCHEMES

Introduction

This chapter will review the ways in which communication is
represented in existing schemes for teaching children with
severe and profound learning difficulties. The aim is to
discover how communication is viewed, both as a phenomenon
and as a subject to be taught. Earlier chapters in this
study have concluded that the pragmatic approach is a
helpful way to understand communication. Should this opinion
be altered in the light of what appears in existing schemes?
And does an examination of the existing schemes highlight
any principles which should be applied when trying to
establish a place for communication in the curriculum?

The chapter begins with a description of two attempts to
bring into some sort of order a plethora of schemes and
intervention projects for developing communication. This
will enable us to form some opinions about the views of
communication which are held currently. It will also give
guidance on principles of procedure for developing new
teaching schemes.

Seeing the wood and the trees

A 1985 journal article contained a review of 43 studies of
intervention projects aimed at helping children with severe
learning difficulties to communicate (Bryen and Joyce,
1985). Forty of these studies had taken place before Phase 2

of the survey reported in Chapter Seven. None of them was referred to by the interviewees when they were questioned about which schemes or materials they used for teaching communication. Conversely, none of the publications referred to by the interviewees in Phase 2 appears in the review by Bryen and Joyce. Another major review of intervention programmes in communication was published ten years before the Bryen and Joyce article (Fristoe, 1975). Fristoe discovered the existence of 229 different communication programmes in schools in the State of Alabama alone. She was able to obtain detailed information on 187 of these programmes, 31 of which were available as published kits and which she catalogued separately (Fristoe, 1976). Four of these kits were referred to by the interviewees in Phase 2 of the survey: Distar (Science Research Associates, Inc.), GOAL Language Development (Milton Bradley and Co.), Peabody Language Development Kit (American Guidance Service) and Portage (Cooperative Educational Service, Wisconsin). But none of these kits was among the 43 intervention projects considered by Bryen and Joyce, as they restricted their review to descriptive and evaluative evidence from experimental studies which authors had reported in academic journals (Bryen and Joyce, 1985, p. 9-10).

Thus far, one simple message has emerged. There is a very great deal of material on teaching pupils with severe learning difficulties to communicate. Some of it is published commercially and some has appeared only in

experimental studies. It is not easy to catalogue.

Fortunately, both of the cited review articles have provided

systems of classification which are helpful to this study.

Fristoe classified the contents of each of the kits she

reviewed under the eleven standard headings which appear

with explanations in Table 6. Bryen and Joyce did not

classify each individual programme which they reviewed.

However, they evaluated their entire group of 43 programmes

in terms of the characteristics which appear in Table 7.

Table 7 also draws attention to points which the two systems

of classification have in common.

TABLE 6

Characteristics of programmes published in kit form

Category	Explanations and examples
1 Target	The broad population the kit was intended to serve, e.g., all children between 2 and 4 years of age, pupils with learning difficulties, deaf children, etc.
2 Level	The range of ability, or disability, for which the kit is most suitable, e.g., children with profound difficulties, mild learning difficulties, etc.
3 Type	Whether or not the kit requires teaching by operant methods. Also, whether or not the kit aims to stimulate the child's interest or to remedy deficits in school performance.
4 Model	The theoretical framework, e.g., behavioural, information processing, developmental, etc.
5 Emphasis	Broad aims, e.g., understanding, expression by speech, imitation, etc.
6 Structure	The extent to which teachers should follow an author's directions, or should adapt materials to suit their own needs.
7 Baselines	The level of ability pupils should display before the kit is suitable for them.
8 Users	E.g., teachers, psychologists, instructors, speech therapists, parents.
9 Setting	E.g., one-to-one teaching, group teaching, teaching at home, etc.
10 Cost	The cost of the kit in 1975-6.
11 Comments	Additional information, often provided by the kit's authors, though sometimes by Fristoe also.

TABLE 7
Characteristics of 43 language intervention programmes and
their relationship to Fristoe's classification in Table 6

Bryen and Joyce Category	Explanation	Equivalent Fristoe Terms
1 Subject characteristics	Details of disabilities and age of subject plus, location in which intervention took place	Target, Level, Setting
2 Prerequisite skills	Pupils are defined as having specified levels of ability, e.g., understanding of language, imitation, forming relation-ships, etc.	Level, Baselines
3 Communication system	The usual systems are spoken language, hand-signing, or an "aided" system, such as writing or Blissymbolics (Bliss, 1965), which is used to overcome a pupil's physical difficulties in speaking or in using the hands to sign	Emphasis
4 Context of intervention	The frequency of teaching and the extent to which it is part of normal teaching and inter-action in class, or is a spec-ific activity taught in isolation	Setting, Structure
5 Goals	Structural goals (e.g., good grammar, vocabulary, pronunci-ation), functional goals (i.e., use of communication to share ideas)	Model, Emphasis, Structure
6 Methods	A variety of methods including operant learning, imitation and "interaction" (i.e., eliciting spontaneous speech)	Type
7 Effects of intervention	Outcome of project in terms of structural communication, funct-ional communication, general-isation of training, and any un-planned, positive "side-effects"	Covered by some of the "Comments" sections
8 (Terms not used by Bryen and Joyce, 1985)	....	Users, Cost

Isolating the main issues

Inspection of the categories of Tables 6 and 7 provides some
guidance on the problem with which this chapter began - the
way in which communication is understood in teaching schemes
for children with severe and profound learning difficulties.
Moreover, it is possible to reduce these categories to the
set of four common themes which are detailed in Table 8.

TABLE 8

Four main emphases in the reviews of Fristoe (1976) and Bryen and Joyce (1985)

Category	Related categories in Fristoe (1976)	Related categories in Bryen and Joyce (1985)
Pupils	Target, Level, Baselines	Subject characteristics, prerequisite skills
Staff	Users, Setting, Structure	Content of intervention
View of the subject	Emphasis, Model	Communication system, Goals, Effects of intervention
Instruction	Baselines, Type	Context of intervention, Methods
(Not in this table)	Costs, Comments	...

Pupils

This category creates no real difficulties in the present
study. The pupils served by the Early Communicative Skills
Project were those defined in Chapter One as having severe
or profound learning difficulties and little or no speech.
The practical consequence of defining the population is that
we are able to take account of the pupils' various degrees
of learning difficulty when preparing schemes of work and
materials for them. Teachers and instructors repeatedly made
this point at Phases 2 and 3 of the survey (Chapter Seven),

stating their frustration with existing materials which were unsatisfactory for preverbal children in general, and especially so for children with the most profound levels of difficulty.

But the severity of pupils' learning difficulties need not have any effect on determining the successful outcome of intervention, according to Bryen and Joyce (1985, p. 31). Thus, staff should feel confident of achieving positive outcomes from their work with even the most profoundly handicapped children if an appropriate curriculum is provided and if they remember that many of the children they teach will be affected by additional disabilities such as loss of hearing or sight (Browning, 1983; Bryen and Joyce, 1985, p. 11).

The practical implication of considering communication in the context of the pupils is that it should be seen as something which occurs from the earliest developmental levels, and not just from the onset of speech. Various sections of this range of communicative ability are covered by the experimental studies in the Bryen and Joyce review, though none covers all of the range. The one-word to two-word range is covered by most of the kits in Fristoe's review, though the whole of the developmental range considered by the present study is covered by only three of these kits; Portage (Cooperative Educational Service, Project MEMPHIS (Fearon Publishers) and the Behavioral Characteristics Progression (Vort Corporation). Apart from

portage, the interviewees in the Chapter Seven survey referred to only one scheme which covered the whole range. This was "Let Me Speak" (Jeffree and McConkey, 1976b). Since then, four more schemes (other than "Early Communicative Skills" - an outcome of this study) may be added to the British list; the communication section of "Starting Off" (Kiernan, Jordan and Saunders, 1978), the British Institute for Mental Handicap scheme (Williams, 1980), the Behaviour Assessment Battery (Kiernan and Jones, 1982) and the Rectory Paddock scheme (Rectory Paddock School, 1983).

Thus, communication is seen by a number of the existing schemes as an area of curriculum which extends from the level of the children with the most profound degrees of learning difficulty to those at the two-word stage and beyond. But this is only the start of our examination of the contexts in which the teaching of communication should be considered.

Staff

Phases 2 and 3 of the Chapter Seven survey indicate that communication is a subject which causes the staff who teach it to feel uncertain, confused and inadequate. That is why so many of them asked for clear guidance on what and how to teach when they responded to the questionnaire in the interim report.

It is worth wondering whence they expected the guidance to come. Inspection of the 43 studies cited by Bryen and Joyce suggests that communication is something which is taught to

children with severe learning difficulties by psychologists, because psychologists are the authors of the 43 articles. But it seems that the teaching may be entrusted to teachers later, though their autonomy in teaching may be restricted in several ways. For example,

> the Karles Early Language Activities (cited by Fristoe, 1976, p. 830) consists of "200 model lessons, 1000 activities on cards";

> the Portage and Behaviour Assessment Battery schemes, again created by psychologists, prescribe the exact sequence which children's development of communication should follow;

> the psychologists who devised the British Institute of Mental Handicap and Project T.A.S.S. schemes (respectively, Williams, 1980; Robson, Jones and Storey, 1982) were concerned that teachers should follow a specific form of instruction if they were to get the best possible results from their pupils.

Social representation theorists (see, for example, Moscovici, 1981) show that classifying people into groups imposes a certain stock of behaviour and rules on them. "If in addition we make (them) aware of this categorisation, we impinge on (them) by formulating definite demands that are asociated with our expectations" (Moscovici, 1981, p.194). The demands on teachers following some of the schemes designed to enable children with severe learning difficulties to communicate are that they should do as they are told by psychologists and publishing companies. In that way they will be able to replicate in class the positive results which the psychologists have obtained in experiments and demonstration projects. In short, teachers need "teacher-proof curricula", "packages so well planned and

constructed that the teacher cannot undermine them"
(Stenhouse, 1975, p.24). But does the undermining of
packages really matter?

It seems more important to recognise a sound, practical
reason for concern that the professional judgement of
teachers should not be undermined by highly prescriptive
packages of procedures and materials. The reason is that,
every school day, every teacher has to make his or her own
choice on matters such as what to teach, how to teach, the
grouping of pupils and the pacing of instruction. It is not
realistic to imagine a set of directions which could
prescribe or control how teachers should act in these
diverse situations, even if they say that they want this
degree of direction. Thus "teachers must be involved in
debate, deliberation, and decisions about what and how to
teach" (Schwab, 1983, p. 245). In addition, Komoski believes
that the controls built in to a teacher-proof package are
more likely to "structure class time and activities rather
than (act as) instructional materials" (Komoski, 1980, p.3).
Komoski concludes glumly that "packaging is a more potent
influence on sales than is careful attention to curriculum
design or instructional effectiveness" (Komoski, 1980, p.4).
There must be a better way than this of translating theory
into practice.

Perhaps there is another way of considering communication
in the context of those who teach it. It is a subject which
is not easy to understand, as psychologists are clearly

concerned that it should be taught in the right sequence and in the right way. However, it is also seen by teachers as a vital part of the curriculum (Robson and Freeman, 1985), and therefore is something which will, or should, be taught every day in school. Bryen and Joyce have drawn attention to the various ways in which teaching may occur. For example, it may be formal or informal; one-to-one or with groups of pupils; with a whole class taking part in an identical activity or with each member of the class carrying out individual activities which contribute towards an outcome (such as a classroom frieze) which is the cooperative product of all of them. It can be seen that in this context there are many different types of guidance which the teachers in the survey may require. But it would be surprising if their experience and training had not provided them with a repertoire of skills and knowledge which would enable them, unaided, to tackle various aspects of teaching communication. The practical implication of this is that they should be encouraged to translate theory about the communication of children into practice by being given guidance on what and how to teach, and on why they are teaching. But this guidance should be presented in such a way that they may have easy access to the information they require, and may ignore that which they do not require or which they know already. This topic is dealt with in greater detail in Chapter Fifteen.

View of the subject

Bryen and Joyce note that two principal views of

children's acquisition of language dominated intervention programmes in the 1960s and 1970s. These views were Chomsky's transformational grammar and Skinner's behaviourist approach. The essence of Chomsky's view is that "the ability to acquire language can only be explained by reference to an innate faculty for language", whereas Skinner's behaviourist view interprets the acquisition of language as the outcome of "non-cognitive principles (including) association, imitation and reinforcement" (Bowerman, 1978, p.102).

Bryen and Joyce also contend that, since the mid-1970s, there have been two other powerful influences on the production of programmes for assisting the development of children's communication. Both of these influences give teachers and psychologists useful points of entry for studying the communication of children who do not talk. The first of these influences is the shift of interest away from spoken language which is an auditory and vocal means of communication, to visual and motor means of communication. These include writing, hand-signs, symbols or ikons (realistic pictograms) drawn on cards, and shaped plastic tokens (Somerset Education Authority, 1978; Jones and Cregan, 1986). The second influence in the mid-1970s was a change in focus from "the particular structure of language (i.e., speech, syntax) to that of the pragmatic functions of language - communicative competence" (Bryen and Jones, 1985,

p. 8). In addition, Bates and her colleagues have described clear functions of communication in the actions of preverbal children, and have thereby extended the usefulness of the pragmatic view of communication to developmental stages which occur before the onset of speech (Bates et al., 1979).

But what views of communication emerge from the reviews by Fristoe and by Bryen and Joyce? In Fristoe's collection there is no doubt that behaviourism is the dominant view. There are frequent references to "imitation" of adults' spoken words and actions, both in kits for the children at the lower levels of developmental ability and for those who are able to speak a little. In addition, there are references to a "developmental" approach which, on inspection, emerges as the listing of a series of milestones along which children should progress. The Portage scheme (mentioned earlier) is a good example. Thus, one view of the subject is that communication is a series of milestones which are attained by imitating the actions and speech of adults. The limitations of this approach, which was encountered during fieldwork for the Early Communicative Skills Project, are considered later in the investigation.

The review by Bryen and Joyce has little to say on the nature of communication as their concern was to assess the effectiveness of the various communication systems which were being used. However, three important issues do emerge from their review.

(1) Many intervention projects show the influence of the

"neobehaviourists" (such as Guess, Keogh and Sailor, 1978) who advocate teaching the structures of language (such as action-object and subject-action-object phrases) by the principles of operant learning. In this way, Chomsky's belief that humans have a unique and innate disposition to use and form syntactic structures is fused with Skinner's techniques of efficient teaching. Therefore, this view infers that communication is, in part, the transmission of meaning by putting symbols in a sequence which is governed by rules. These rules can be taught and learned. This view of communication continues to influence the teaching of communicative skills in British special education. It is evident in the Schools Council Project (Leeming et al., 1979), Project T.A.S.S. (Robson, Jones and Storey, 1982), the Behaviour Assessment Battery (Kiernan and Jones, 1982) and recent advice on principles of procedure for teaching communication (Porter, 1986). Allegiance to the behaviourist approach is a characteristic of special education, and reasons for this will be suggested in later chapters.

(2) Bryen and Joyce draw attention to the influence of "interactional" approaches to communication. This is a product of the pragmatic movement which may be dated conveniently from Bruner's "ontogenesis" paper in 1975. This view of communication encourages teachers to be attentive to their own interactions with the pupils so that they may create situations in which children want, or need, to communicate. There can be no sharing of ideas without this

need.

Few of the studies reviewed by Bryen and Joyce have a very obvious focus on interaction. However, those by Cheseldine and McConkey (1979) and Grinnell et al. (1976) do show the importance of the interaction between people who are communicating. In particular, the paper by McConkey and Cheseldine draws attention to "rules" of interaction between parent and child which foster the production of spontaneous acts of communication from the child. These rules are probably quite natural human characteristics which one author, pirating Chomsky's rhetoric, has called the "language teaching device" (Arkell, 1986). There is certainly evidence from a number of studies that mothers' speech to their children is a well-graded adaptation to the children's level of communicative development, though the mothers of children with delayed language may interact differently and thereby provide the children with feedback which is less likely to encourage the production of spontaneous communication (Davis and Oliver, 1980; Petersen and Sherrod, 1982; Cardoso-Martins and Mervis, 1985).

McConkey, in cooperation with Jeffree and Hewson, described some of the characteristics of enabling interactions in a series of handbooks for parents (Jeffree and McConkey, 1976b; Jeffree, McConkey and Hewson, 1977a, 1977b), and has subsequently refined them in experimental studies (McConkey and O'Connor, 1982; McConkey and Martin, 1983). The recurrent theme in these interactional studies is

that children must have a need to communicate before they will communicate. Therefore, parents and teachers are urged to engineer situations in which communication has a good chance of occurring spontaneously (Gillham, 1979; Schaeffer, 1982), and to do this by providing the children with many different types of opportunities to communicate (Harris, 1984). Smith and Hopkinson (1984) and Fraser (1986) show that children who have acquired some spoken language may have it extended if their teachers respond by expanding and commenting on what the children have said.

None of the American kits listed by Fristoe uses an interactional approach with children who have little or no speech. In Great Britain, "Let Me Speak" (Jeffree and McConkey, 1976b) promotes the use of interactional techniques across most of the range of communicative ability covered by this study, and the "First Words Language Programme" (Gillham, 1979) uses the same approach to encourage the onset of speech in children who understand some words. More recently, McConkey (by then in Ireland) has produced videotaped courses to demonstrate the use of interactional techniques for encouraging cognitive and communicative development through the medium of play (e.g., McConkey, 1984).

The theme which emerges from the interactional approach is the importance of the pragmatic view of communication which was presented in Chapters Three and Four. Communication is a purposeful activity; we communicate in interaction with

other people so that we may share our ideas.

(3) Bryen and Joyce contend that non-speech systems of communication are not very effective and not very useful in helping people to communicate. They suggest several reasons for this lack of success. The systems may be difficult to learn; they may have been taught in formal classwork rather than in more natural contexts; inappropriate target behaviours may have been selected; and the non-speech systems may require teachers to elicit communication more actively than they would with spoken language (Bryen and Joyce, 1985, p.31). Spalding's (1985) study suggests that some pupils may feel that the non-speech systems are stigmatising, and therefore they are reluctant to use them outside the classroom.

But the non-speech systems should not be dismissed too lightly, as it is not sensible to predict what will suit the communicative requirements of individual pupils (Bryen and Joyce, 1985, p.31). Examples during the fieldwork of the Early Communicative Skills Project demonstrated that children would use non-speech systems spontaneously when they needed to make themselves understood; see, for example, the "drink water" incident in Chapter Five.

There is another reason for not dismissing non-speech systems lightly. Le Prevost, a speech therapist working in Oxfordshire, has taught words from the Makaton vocabulary to infants with Down's syndrome who are as young as six months (Le Prevost, 1983, 1985, personal communication, 1986;

Dennis, Le Prevost and Stevens, 1986). It would not be too
surprising to find a non-handicapped child of six months who
could understand a few spoken words, though production of
speech at this age would be remarkable. However, Le Prevost
appears to be finding that some infants with Down's syndrome
both understand the manual signs and produce them
communicatively. The implications of this are intriguing if
the results can be replicated. They would support
post-Piagetian developmental psychologists such as Bower
(1977), Brainerd (1983) and Scholnick (1983) who believe
that Piaget's concern with actions at the sensorimotor stage
ignores the importance of perception in children's
development. There would also be even more powerful evidence
of a downward extension of pragmatics showing, not just that
communicative intent occurs in preverbal actions (Bates et
al., 1979), but that the preverbal child may be able to
express communicative intent through symbols. This would set
the milestones of the ability to understand symbols at a
much earlier level than is accepted conventionally. Finally,
it revives old concerns about the tailing off in the rates
of progress of children with Down's syndrome (Cunningham,
1982).

The significance of Le Prevost's work will become clearer
as more research is done. The more immediate implication of
the non-speech systems of communication for this study is
simply that communication is a phenomenon in which ideas are
shared through auditory/vocal and visual/manual means; these

ideas may take the form of symbols, ikons, actions and perceptions.

Instruction

Communication, seen in the context of instruction, has a consistent appearance in the majority of the kits reviewed by Fristoe and in many of the intervention programmes reviewed by Bryen and Joyce. The appearance is that of a subject which is taught by Skinner's operant techniques. These operant techniques involve structured systematic teaching. They have carefully chosen objectives. These objectives are attained by progressing along a line of sub-objectives which lead to a goal. The sub-objectives and the principal objectives are attained more easily if the teacher makes correct use of techniques such as reinforcement, prompting and shaping. Adaptation of these techniques for children with severe learning difficulties has been carried out by many authors, including Watson (1973) and Neisworth and Smith (1973).

Twenty-three of the thirty-one kits reviewed by Fristoe make specific reference to the use of operant, "partially operant" and behavioural types of teaching. The neobehaviourist, Guess, and his associates reviewed a series of published programmes and kits, apparently assuming that they would be used according to operant methods (Guess et al., 1977). But it is worth noting that the behaviourist

approach need not lead to a simplistic view of the subject,
for Guess et al. (1977, p. 148) urge teachers and
psychologists to pay proper attention to the functions of
communication and the interactions in which it takes place.
Their concern contrasts starkly with a "language programme"
encountered in one school for profoundly handicapped
children during the fieldwork for Early Communicative
Skills.

> The first stage of the programme was that the child
> should look at the instructor ("establish eye
> contact") on the command, "Look at me". The second
> stage was progressed to when the child would look at
> the instructor on command, eight times out of ten.
>
> At the second stage the child had to hand the
> instructor a toy hammer made of pink plastic on the
> command, "Give me the hammer". This objective had to
> be attained eight times out of ten also.
>
> The third stage was, "Say hammer".
>
> Teaching took place with the instructor seated at
> one side of a table, the child at the other, with
> gestural and physical prompts (see Watson, 1973)
> being given if there was no response to the "verbal
> prompts" of the instructor's commands.

This approach, based on the British Institute of Mental
Handicap scheme (Williams, 1980), seems to take little
account of the complexities of communication, and examples
of other schemes which are only marginally more
sophisticated may be found (e.g., Gutmann and Daniel 1977).
By contrast, the neobehaviourists are far from
unsophisticated in their view of language. However, they are
convinced that it should be taught according to principles
which are known variously as "operant learning", "structured
teaching", "behaviour modification" and, more recently,

"applied behavioural analysis" (Lovitt, 1983). The behavioural approach has had a strong hold on British special education since at least the first parents´ workshops produced by the Hester Adrian Research Centre (Cunningham and Jeffree, 1971). It exists in simple language programmes such as "Starting Off" (Kiernan, Jordan and Saunders, 1978) and Rectory Paddock (1983), and in sophisticated ones such as Project T.A.S.S. (Training and the Severely Subnormal) (Robson et al., 1982). It is the core of "content-free" packages such as Education of the Developmentally Young, (Foxen and O´Brien, 1981) which seems to assume that the purpose and content of the curriculum are of secondary importance to techniques of teaching. And the Scottish document, "Learning Together", is centred round the advice that teachers and instructors should plan detailed schemes of work based on observation, goal-setting, task analysis, operant conditioning and charting of results (COSPEN, 1984, pp. 12-38).

Later chapters in this study will consider why operant techniques are so much part of the fabric of special education. This examination is necessary because Bryen and Joyce discovered that studies in which operant methods were used had a very poor success rate when compared with studies using either interactional methods alone or a combination of interactional and operant methods. They conclude

> "Operant methods and techniques are probably the most frequently used teaching paradigms used with severely handicapped persons. Use of this teaching paradigm is not just constrained to the teaching of

>mechanical, rote skills, but is also used in highly
>abstract abilities such as communication and
>language. The findings of this study call into
>question the very validity of using such methods for
>teaching language, especially if the goal of such
>efforts is to increase the communicative competence
>of handicapped persons. ... Not only does this
>procedure fail to resemble normal communication, but
>it may inadvertently teach students the very
>opposite of what is desired. ... Thus one can
>legitimately argue that operant methods may
>inadvertently teach students <u>not</u> to spontaneously
>communicate"
>(Bryen and Joyce, 1985, pp. 32-33).

It is worth noting that Colin Robson, director of Project

T.A.S.S. (Robson, 1980), now doubts the value of such

"heavily prescriptive" approaches to teaching, and suggests

that it might be better "restricted to situations where it

is pedagogically inescapable" (Robson, 1984, p. 91).

In the context of this section of the chapter,

communication is a subject which is taught, but success in

teaching it does not depend on simplistic adherence to

techniques which have been effective in the teaching of

"mechanical, rote skills".

Conclusions

The reviews by Fristoe and by Bryen and Joyce have shown

that there is a need for teaching schemes which take account

of a range of issues related to the teaching of

communication to children with severe and profound learning

difficulties. Aspects of some of these issues have appeared

in earlier chapters of this study. Others require to be

discussed further before the practical implications of them

may be stated with confidence and incorporated in a new

scheme for teaching communication. Table 9 summarises these issues and indicates the points in this study where they are considered further.

TABLE 9

Issues arising from the reviews of research and materials on the teaching of communication

Category	Comments and implications	Further discussion
Pupils	* Curriculum materials should cover the complete range of children served by the study * Their communicative, intellectual, sensory and physical difficulties should not be complicated by social difficulties caused by an inappropriate curriculum	Chapters 1, 9
Staff	* Staff require assistance which will let them translate theory into practice as easily as possible * Teaching materials should reflect the wide range of skills, experience, needs and locations of staff * Materials should encourage staff to have confidence in their own worth, rather than see themselves as directees of psychologists and commercial publishers	Chapters 1, 11, 12, 15
The subject	* Communication is probably part innate and part learned. It is certainly functional and interactional * The teaching of communication should be set in contexts of purpose and interaction as far as possible	Chapters 3, 13, 14
Instruction	* Behaviourist techniques have a firm grip on special education. The reasons for this should be explored * Techniques of teaching should reflect the spontaneous, functional and interactional nature of communication * If specific skills are taught in isolation, pupils should also have the chance to practise them in real life	Chapters 10, 11, 12, 14

CHAPTER NINE

DISEASE AND DEFICIT

Introduction

The previous two chapters have shown the existence of a hope, or an assumption, that there is a simple, correct view of communication. The hope or assumption exists both in the minds of educational practitioners and in the content of educational programmes. The essence of this view is that communication is a set of skills. Children with severe learning difficulties do not have enough of these skills to function independently. Teachers and instructors should make good the deficit and teach the children the skills which they do not have.

This view reflects a prevailing attitude in our society towards people with severe learning difficulties and the consequent response of the educational system to them. But the attitude has even deeper roots. These lie in the ancient belief that severe learning difficulties are a disease or a curse.

A curse invites no rational response. For example, Martin Luther is reported to have recommended that a severely disturbed and handicapped child who was referred to him should be drowned in the Moldau. Luther proposed exorcism as an alternative response when his first suggestion was turned down (Thompson, 1977). A disease does at least invite treatment. And seeing severe learning difficulty as something to be treated has had a profound effect on the

development of special education. One important result is that it has enabled people with severe learning difficulties to function far more competently than if their "condition" had been "untreated". Yet this same attitude has had a generally restricting effect on the extent to which people with severe learning difficulties have been allowed to participate in open society. More specifically, it has markedly influenced the type of educational curriculum they have been offered. With reference to this study, the views of some interviewees in the Survey (Chapter Seven) and the nature of many of the educational programmes reviewed in Chapter Eight show a concern with problems and deficits which suggests that there is something which has to be put right, or cured. This belief has been an important influence on the philosophy and practice of current special education, and it should be examined more closely.

Handicap as a disease

Not many people today talk overtly of severe learning difficulties as if they were a disease. Yet handicap was represented as a disease in professional literature well into this century. For instance, Descoeudres seems to be expressing fear or loathing for people with severe learning difficulties when she asks "Are we to regard as capable of development ... the idiots themselves whose purely animal tendencies we manage to suppress?" (Descoeudres, 1928, p.20) The hopeless position of idiots had already been recognised

three years previously. Idiots "will require institutional care for the protection of others and themselves" (Chief Medical Officer, 1925, cited by Descoeudres, 1928, p. 51). In short, people with severe and profound learning difficulties should be in hospital because they are sick and a danger to others.

Superficially these statements represent a wholly unacceptable philosophy of education by the standards of today. Yet, several writers have shown that attitudes which are fundamentally not so very far removed from those of the 1920s are still exerting a powerful influence in current representations of severe learning difficulty and on the provision of special educational and other services (Ryan and Thomas, 1980; Lewis and Vulliamy, 1981; Tomlinson, 1982; Hellier, 1983). These attitudes need not have an adverse affect on the goodwill of the public towards people with severe learning difficulties. In fact it could be argued that interest in, and goodwill towards, people with severe learning difficulties is greater than at any time in recorded history. Branches of parents' organisations, such as the Scottish Society for the Mentally Handicapped, exist throughout the country. Volunteers run clubs for children with handicaps in the larger conurbations. Many special schools have useful links with their local mainstream primary and secondary schools. Offices, works and social clubs will often gift pieces of equipment or money to their local special schools.

But some writers are very concerned that a focus on severe learning difficulty as a disease or as a group of deficits is exercising, however unwittingly, an unhelpful influence on the development of special education. For example, McConkey describes as "education without understanding" the practice of special educationists who depend on programmes aimed at enabling children to make good their deficits from their age-levels on tables of child development.

> "Many of the curriculum packages currently available for mentally handicapped children ... consist of long series of specific tasks arranged into broad developmental areas. The assumption we make is that the child's mastery of these highly specific tasks ... in some way is building up the child's repertoire of basic skills" (McConkey, 1981, p.9).

And O'Hagan and Swanson suggest that staff in special schools are often concerned with responding to deficits (such as the inability to use public transport) which are what they call an "induced dependency" created by the education system itself. Indeed, they assert that the post-Warnock focus on "special educational needs" emphasises the "within-the-child deficit model rather than clear educational objectives" (O'Hagan and Swanson, 1984, p.7).

In passing, it is worth noting that what O'Hagan and Swanson call the "deficit model" of operation is also known by other labels. For the purposes of this study the "disease model" (Haywood, 1977), the "medical model" (MacMillan, 1973), the "defect model" (Tomlinson, 1982) and the "deficit model" will be regarded as equivalent terms.

Modern curriculum planners might feel unhappy about being

accused of regarding severe learning difficulty as a disease. But there are means by which we disclose ourselves more subtly than by verbal expression. Our aims, our methods of tackling problems, and the assumptions we make often reveal that unexpected philosophies govern the quality of our interactions with others (Herzlich, 1976; Moscovici, 1981).

What, then, is the characteristic of the "disease" model in practice? It is essentially simple and commonsense. A practitioner (educational, psychological or medical) determines whether or not a pathological condition is present. He then takes note of the presenting symptoms and their severity. Finally, he decides how to respond to them.

This point of decision is important philosophically. How should the practitioner respond to the diagnosis that has been made? Should the disease be nursed or treated?

A disease requiring nursing

Perhaps the lowest level of response which can be made by an educational system is what Milner (1976) has called the "Greek curriculum" of special education. His reason for this label is that it describes an approach to problems which is similar to the plots of classical Greek tragedy.

> "The Greek curriculum is based on the tragic search
> for truth. Self-knowledge does not always produce
> happiness, and more likely misery"
> (Milner, 1976, p.63).

Fate is inevitable. We should accept this fact and accommodate life in it. This attitude may be seen in less

florid terms in official guidance issued by the Scottish Education Department twenty-five years ago. Children with the most severe degrees of learning difficulty are not said to require "education" but "psychotherapeutic and medical treatment" (Working Party, 1961, p.20). Even now, the course for instructors of children with severe and profound learning difficulties is still described as dealing with the "educational care of severely mentally handicapped children" (personal communication, Scottish Council for Technical and Vocational Education, 1986), though it has to be recognised that the course has moved decidedly away from an emphasis on care to one on education.

The underlying assumption of using the rhetoric of care and nursing is that fate has dealt people with severe learning difficulties a cruel blow. Society's duty is to make life as comfortable as possible for them and their families. This response to the "disease" of severe learning difficulty is interesting in the broader context of the nature and provision of services. However, it may be passed over quickly here because it makes no claims to be educational and therefore has no relevance for the curriculum.

A disease requiring simple treatment

Care and protection was no longer an acceptable approach to pupils with severe learning difficulties by the 1970s for reasons which have been outlined in Chapter One. A less

"tragic" response was required. The emphasis now moved from disease to deficit, and educators were expected to provide a lot more than diagnosis. The diagnosis had to produce prescriptions of treatment. This approach has great face validity because its principle is simple to grasp and it is an answer to the day-to-day needs of teachers and psychologists who want to find purpose and direction in their work with children. Yet it has many pitfalls. The following examples will illustrate what can happen when the relationship of diagnosis to treatment is too facile.

> D. was five years old and had Down's Syndrome. Therefore he was set work on pegboards and simple formboards even though he could tackle much more advanced tasks successfully. His teacher's aim was to make him follow her plan for all five year old children who had severe learning difficulties.

> Every child in G. School who was "diagnosed" "unable to speak" was set to work on the school's language programme. This programme was the same for every child. It was based loosely on a sequence of developmental milestones which had varying relevance to the development of communication. It rarely ever worked.

> A mid-day "sleep" of twenty to thirty minutes was part of the timetable of B. School. "Feebleness of mind" was equated with "feebleness of body", and feeble bodies need plenty of rest. The pupils slumped across their desks after lunch each day, wide awake.

A disease or deficiency had been diagnosed in these applications of the disease model. The diagnosis led directly to the prescription of treatment. And of course this is where the model breaks down. In many cases, such as Down's Syndrome, there is no disease to cure and no "formerly enjoyed state of health" to which the sufferer can

return (Haywood, 1977, p.14). The model still breaks down even when the practitioner admits that the condition is "treatable but not curable". And indeed it breaks down in medicine too. There may be a simple diagnosis which laypeople will recognise - "cancer", "fibrositis", "mental handicap" - but these terms tell very little about the condition of individual patients, and only rarely is there a simple prescription of treatment.

Profile diagnosis as a prelude to better treatment

There is a more persuasive variant of the disease/deficiency approach. This variant looks at an individual's deviation from "normal" on a large number of factors, instead of looking at a single "disease". The object of looking at a number of dimensions is to highlight areas of strength, normality or weakness. For example, a child with Down's Syndrome will probably obtain scores which are lower than normal for a child of his age on tests of reasoning, but may score within normal limits on test of social and self-help skills (Cunningham, 1982, Chapter 7). A child with a specific learning disability may perform at age level on a test of manual dexterity and nonverbal intelligence, but below average on a test of verbal fluency.

The fact that there can be considerable variation of strengths and needs within the one individual has created interest in the profiling of abilities. This interest is evident in mainstream schooling as well as in special

education. For example, there is both recent and current
work in Scotland on the assessment of practical skills in
secondary school science (Bryce et al., 1985), and on the
assessment of skills in primary school mathematics and
environmental studies (Duncan and Mitchell, 1986; Duncan and
Noble, in preparation).

Three main approaches to profiling are used in the
education of children with severe learning difficulties;
psychometric tests, developmental scales and social
competence scales.

Psychometric profiles are based on the principle that
human faculties such as intelligence or communication may be
described systematically in terms of some theoretical
framework. Guilford's "structure of intellect" (Guilford,
1956) and Cattell's analysis of personality (Cattell, 1965)
are two early examples of this approach. Tests are devised
for examining people's performance on various categories
generated by the theoretical model. For example, Osgood's
model of communication (Osgood, 1963) was translated into
the Illinois Test of Psycholinguistic Abilities (Kirk,
McCarthy and Kirk, 1968), and was at one time thought to
have potential for use with children who have severe
learning difficulties (Mittler, 1970).

Developmental scales are derived from the "milestones"
approach which was referred to in Chapter Five.
Developmental sequences are compiled for various aspects of
human development such as physical growth, movement,

coordination and communication. Some of the scales are easy
to administer by parents and teachers, but others require
much greater skill on the part of the administrator.

Social competence scales are based on classifications of
skills which the compiler considers to be important for the
tasks of everyday life. One such set of scales, frequently
referred to by interviewees in the Chapter Seven survey, are
the Progress Assessment Charts (P.A.C.) (Gunzburg, 1969)
which investigate a person's competence on four sets of
skills (self-help, communication, socialisation and
occupation) and various subdivisions of them.

A selection of intellectual, scholastic, motor,
perceptual, social or communicative skills is assessed by
means of these profiling techniques, and the results are
displayed to reveal patterns of strength or weakness. These
patterns, and the individual scores which they comprise, are
used to suggest areas where educational intervention may be
necessary. Or they may suggest directions that the assessed
person might follow in line with his talents or lack of
them.

But this variant of the simple disease/deficiency model
also invites many questions, as Gillham has shown (Gillham,
1978, Chapter 6). Has the practitioner used a test which is
statistically reliable enough to be a base for
prescriptions? Has the child been given proper opportunity
to display his powers at their best? Are the tests based on
valid and useful theoretical models of the faculties (such

as intelligence and communication) which they are said to measure? Are the areas of deficit which the test identifies of any relevance to the child's difficulties with learning? The Wechsler (Wechsler, 1947, 1967, 1974), Illinois (Kirk, McCarthy and Kirk, 1968), Frostig (Frostig, 1964), P.A.C. (Gunzburg, 1969) and Griffiths (Griffiths, 1954) scales will all yield profiles of ability on which it is quite easy to base teaching programmes. But they can too easily become the philosopher's stone which is expected to turn the base metal of test results into the pure gold of appropriate teaching activities. The underlying assumption is that the selection of a curriculum should be a wholly deterministic process.

Normal is good

People who use the disease/deficit model make one other important assumption. It is that "normal" is the ideal goal for all attempts at intervention. For example, parents are encouraged to direct their children's development along paths which are based on the developmental milestones of some hypothetical normal child. Staff in schools for children with severe learning difficulties are concerned when a child cannot be credited with a few more points on a P.A.C. Chart every six months or so. Teachers used to be taught at the colleges of education that children's reading ages are normal if they equal their mental ages, and this fallacy dies hard. Wolfensberger, the best-known advocate of "normalisation" as an approach to planning services for

disadvantaged groups of people, has to point out continually
that he does not want people to be made normal. He wants the
services that are provided for them to be as normal and
valued as possible (Wolfensberger, 1972; O'Brien and Tyne,
1981). Yet his pains at pointing this out, and the frequent
misconceptions of normalisation (for example, Currie, 1982;
COSPEN, 1984, p. 61) indicate the widespread belief that
special education is about making people normal. Normal is
the criterion. Normal is good.

Milner, again, makes interesting comments on the
assumptions of this aspect of the disease/deficiency model.
He describes it as the "Modern" curriculum. It is special
education which has normality as its real goal (Milner,
1976).

> "Man in the modern curriculum, who is basically
> innocent and more similar to other men than not, is
> hindered by a diagnosable and curable foible,
> sickness or lack. The cure is control. The feeling
> of innocence is accelerated, and obedience and
> compliance are reinforced when one acquiesces to the
> other, to the group, to the collective. Thus the
> modern curriculum imparts a feeling of despair that
> is mitigated only as one relegates one's uniqueness
> to the crowd"
> (Milner, 1976, p.50).

The norm - the relegation of one's uniqueness to the
crowd - may well be good. However, adopting this approach
has consequences for the development of curriculum. The
approach encourages educators to set clear goals, and routes
by which the goals may be attained. And Special education
has been a particularly fertile ground for propagating the
Modern curriculum.

Chapter Nine

Implications of disease & deficit for the investigation

This chapter has provided examples of mental handicap being treated as a disease and a deficit, with the consequence that people who have the disease are seen as patients who need to be treated for it. What are the implications of taking that point of view for this investigation?

The investigation is concerned with communication, an area in which people with mental handicap are likely to have many problems. Should the teaching of communication consist of attending to "deficits" of communication such as developmental delay and restricted vocabulary, and "diseases" of communication such as faulty grammar, poor articulation and severely withdrawn behaviour? The answer to the question must be "yes" to some extent, because the effectiveness of acts of communication is partly determined by the clarity of their messages, as we have seen in Chapter Four. But this answer must be a qualified "yes" because Chapter Four has also drawn attention to the flexibility of response of fluent communicators. The teaching of communication must therefore go further than clearing up signs of disease and filling in areas of deficit. It must also enable people to communicate effectively and appropriately in the wide and unpredictable range of social experiences which they encounter in everyday life.

The focus on disease, defect, deficit and medical models seems too narrow to take account of the complexity of

communication. Perhaps, therefore, an educational model would be better, a model in which aims, such as Warnock's enrichment of experience and preparation for participation in society (see Chapter One, above) are the guiding philosophy. But there are problems for the educational model too. When trying to meet educational aims for people with mental handicap, we must still take account of the fact that they have disabilities. And here is where the problems start. We may intend to offer educational experiences which enrich people's lives and provide them with useful skills, but does our awareness of disability lead to the provision of an education with philosophies and routines which are not so very different from those of the deficit models?

This question is important because there is a powerful theory of curriculum and a powerful technology of learning which are easily able to coexist with a disease/deficit outlook in special education.

The theory of curriculum which we shall consider is the objectives approach. This approach requires teachers "to produce definable changes in student behaviour and to bring this behaviour under the discipline of the subject matter" (Taber, Glaser and Schaefer, 1965, p. 3). "Objectives are ... behavioural end-products, that is, ... what the student must do" (ibid., p. 63). This approach aims to reduce the products and the processes of the curriculum to observable and definable phenomena which let us see whether or not learners have acquired skills and knowledge. But how valid,

or even possible, is it to express the curriculum in this way?

The technology of teaching is applied learning theory. It aims to make the processes of learning and teaching as efficient and systematic as possible by basing them on empirical research. Learning theorists have often been concerned about the lack of use of this research in the schools. For instance, B. F. Skinner, one of the most influential figures in the development of applied learning theory, remarked that "it is a great shock to turn to that branch of technology which is most concerned with the learning process - education" (1954, p. 304 in 1970 reprint). Skinner was concerned about the inconsistency with which schools were "imparting to the child a large number of responses (such as) ... mathematical behaviour" (ibid., p. 304-5). And responses such as these are essentially the same as the "objectives" which were referred to above.

There has been a productive partnership of the objectives approach and applied learning theory in the field of programmed instruction for over thirty years. For the last quarter of a century, approximately, the two approaches have also been closely associated in the development of educational and other services for people with mental handicaps. That association should be examined as it has general implications for the quality of services which are provided, and particular implications in this study for the quality of the curriculum.

The next three chapters, respectively, examine the objectives approach, applied learning theory, and the development of both of them as a system of instruction. Issues arising from the application of this system in the field of severe learning difficulties will then be discussed.

Chapter Nine

CHAPTER TEN

DISEASE AND DEFICIT IN CURRICULUM THEORY

Introduction

The philosophy of disease, or deficit, which was described in the last chapter is concerned with attaining ends. These ends may be "normality" or "social competence", for example, in the case of the education of children with severe and profound learning difficulties. But an end-seeking approach is also well established in planning the curriculum of children in mainstream education. Its origins were described as follows by Eisner (1979) in his discussion of Franklin Bobbitt, the American educationist whose ideas were so influential at the start of this century.

> "(C)urriculum planning (was seen) as a species of social engineering. The problems were essentially to discover the appropriate ends through a type of needs assessment, to formulate these ends in specific terms, to order them in time in increasing levels of difficulty, and to help children learn at each level what is laid out." (p.7)

This "species of social engineering" is known as the "objectives approach" when it is applied to the planning of curriculum.

The development of the objectives approach

It is customary to credit Frederick Taylor with the paternity, or perhaps the grand-paternity, of the objectives approach in curriculum theory (see, for example Davies, 1976; Reid, 1975; Eisner, 1979). Taylor was not concerned with developing school curricula, but with discovering

efficient work practices in factories. He developed
techniques of "scientific management" by studying factory
workers carrying out their jobs. He used his observations to
prescribe series of minute steps by which the jobs could be
carried out with less use of time and energy. The results
took the form of increased productivity with no increase in
labour costs (Callahan, 1962).

Taylor´s ideas soon took root in education. Eisner (1979)
has shown that American school administrators in the early
years of this century were under pressure to give the public
a fair return for its investment. Scientific management had
done that for industry and had the results to prove it.
Surely the same could happen for schooling? Kliebard
certainly saw American schooling in the early decades of
this century in industrial terms. It was a "vast
bureaucratic machinery which transforms the crude material
of childhood into a socially useful product" (cited by Reid,
1975, p.241). Davies (1976, p. 45-46) states that British
education was also ready to receive Taylor´s ideas. He notes
that the Elementary Code of 1904 was aimed at fitting
children for "the work of life". This Code was followed in
1905 with the publication of a handbook which laid
foundations for curriculum and methods of teaching based on
a clear specification of goals. In 1912, one year after the
publication of Taylor´s "Scientific Management" in the
U.S.A., Professor John Adams of the University of London had
begun to make tentative proposals for translating Taylor´s

ideas into practice in British education (Adams, 1912).

The climate was certainly right for applying scientific management to the practice and theory of education. Its first major detailed proposal was made in 1918 by Franklin Bobbitt in "The Curriculum", followed by "Making a Curriculum" in 1924. Here is his general philosophy for building a curriculum.

> "Human life, however varied, consists in the performance of specific activities. Education that prepares for life is one that prepares definitely and adequately for these specific activities. However numerous and diverse they may be for any social class, they can be discovered. This requires only that one go out into the world of affairs and discover the particulars of which these affairs consist. These will show the abilities, attitudes, habits appreciations and forms of knowledge that men need. These will be the objectives of the curriculum. They will be numerous, definite and particularised. The curriculum will then be that series of experiences which childhood and youth must have by way of attaining those objectives"
> (Bobbitt, 1918, cited by Davies, 1976, p. 47).

It is easy to detect echoes of Bobbitt in modern attempts to develop curricula in special education. For instance Whelan and Speake (1979) have developed a curriculum for young adults with severe learning difficulties which is based on the principle that "education for life is one that prepares definitely and adequately" for the "tasks" of living as an adult in the community. Certainly it is reasonable to suggest that the global statements of Bobbitt, such as the one in the previous paragraph, can be interpreted in less deterministic ways than the "diagnose-then-treat" approach of the disease/deficit model. But in fact there is little doubt that disease was exactly

the analogy Bobbitt had in mind.

> "Like the symptoms of disease, the (imperfections of learning) point unerringly to those objectives that require the systematised labours of directed training. Deficiencies point to the end of conscious education. As the specific objectives upon which education is to be focused are thus pointed out, we are shown where the curriculum of the directed training is to be developed" (Bobbitt, 1918, cited by Davies, 1976, p. 47).

Stenhouse (1975, p.52) credits Tyler with the "most lucid and straightforward account of the use of objectives in curriculum development". Of course Tyler (1949) was clearly not writing with the needs of children with severe learning difficulties in mind. For example, his "Tentative list of common elements on the social studies curriculum" (p.89) assumes that students have good reading skills. Nonetheless his "general principles in selecting learning experiences" (p.65 - 68) and "organising principles" (p.95 - 98) could be translated into special education without difficulty. And the inevitability of this translation increases with the passage of time. For instance he recommends that learning experiences should be relevant, that they should be motivating, that they should be developmentally appropriate, and that desired ends can be attained by several routes. Exactly the same sort of advice appears in "Teaching the Handicapped Child" (Jeffree, McConkey and Hewson, 1977b) almost thirty years later.

Potential for application in the field of severe learning difficulties

Tyler was writing at a time when the objectives approach was

already established. It is worth returning nearer to the

time of Bobbitt´s original writings to discover exact

parallels of modern attempts to apply the objectives

approach in special education. The reason is that one early

attempt to refine the coarse principle into a workable

framework has been mirrored in the 1960s and 1970s with the

upsurge of concern about producing a genuine education for

children with severe learning difficulties. This refinement

was the set of seven rules for curriculum construction

formulated by W.W. Charters (1924)

> First, determine the major objectives of education
> by a study of the life of man in his social setting.
>
> Second, analyse these objectives into ideals and
> activities and continue the analysis to the level of
> working units.
>
> Third, arrange these in order of importance.
>
> Fourth, raise to positions of higher order in this
> list those ideas which are high in value for
> children, but low in value for adults.
>
> Fifth, determine the number of the most important
> items of the resulting list which can be handled in
> the time allotted to school education, after
> deducting those which are better learned outside
> school.
>
> Sixth, collect the best practices of the race in
> handling these ideas and activities.
>
> Seventh, arrange the materials so obtained in proper
> instructional order, according to the psychological
> nature of children"
> ("Curriculum Construction", p.4).

This reads like a summary of the guidance to teachers in

"Learning Together", a recent Scottish document which

advocates a systematic approach to the teaching of children

with severe and profound learning difficulties (Committee on

Special Educational Needs, 1984). Charters also made a

condensed version of these seven dictats when he advised

educational planners to "take one's own major objectives and

ideas and break them into subgroups of minor objectives. By

continuing to break objectives into more and more minute

parts one would come ultimately ... to specific immediate

activities to be performed" (in Brubacher, 1947, p.297).

The objectives approach in existing materials

It is not difficult to find very recent examples of these

principles being advocated in the special education of

children with severe learning difficulties.

Communication curriculum
"(O)n ... those very simple principles - that we
break things down into small steps and we reinforce
the acquisition of those small steps - I want to
show how these can be interlinked to form the
building blocks of communication skills. This task
analysis differs significantly in its logic from an
approach taking "natural" development as its source
material in that the specific behavioural targets
chosen for each teaching area are drawn from an
analysis of the overall objectives"
(Williams, 1980, p. 34).

"Undoubtedly the greatest advantages of structured
curriculum packages was summed up by one member of
the working party. "They stop you floundering". Not
only do they provide a structure for teaching, they
can also act as a valuable source of objectives. The
steps towards many objectives may have to be broken
down into smaller steps"
(Leeming et al., 1979, p. 327-8).

"The necessary data functions required a careful
analysis of the skills to be taught ... With this
list of skills on hand, the next major undertaking
was to design proposed teaching strategies. This
yielded a set of carefully sequenced trainer
instructions"
(Carrier, 1978, p. 266-7).

General curriculum

"A greater amount of attention is now given to detailing the specific skills or tasks embodied in a curricular area, sequencing those tasks into a reasonably logical structure, and developing evaluative devices and performance criteria for assessing how well a given youngster has acquired skill in each of the task areas as a result of direct instruction"
(Neisworth and Smith, 1978, p. 343).

"Keeping the curriculum and its implementation under surveillance is vital in order to establish whether objectives are being achieved and methods and materials are effective" (p. 201). "Tasks and skills have to be analysed precisely, and the setting of small, clearly-defined incremental objectives for individual children is a necessary part of programme planning" (p.221)
(Committee of Enquiry (Warnock Report), 1978).

"The techniques of skilled diagnosis and assessment of assets and liabilities are already more prominent in (teachers´) training and repertoire of skills. A judicious application of the techniques of behaviour modification, programmed learning and teaching through behavioural objectives is more likely to take place in Special Schools than in other sections of education"
(Calderwood, in Dockrell et al., 1978, p. 129).

The goal: normality

Thus there is a clear link between the thinking behind modern curriculum planning in special education and that of the early protagonists of the objectives approach. We have seen in the previous chapter that mental handicap has been regarded as a disease, or more benignly as a deficit. We have also seen that Bobbitt thought of imperfections in learning as a disease. Sooner or later, then, it seems inevitable that the curricular theory of objectives would be applied to the disease of mental handicap. And so, children affected by this disease have disorders of learning which

have to be diagnosed (a good medical term). The children are
then "treated" so that their disorder is alleviated or so
that they can approximate as closely as possible to some
ideal norm. Normality is quite acceptable as an aim in
current special education. For instance, it is one of the
two aims consistently stated by teachers interviewed by
Leeming et al. (1979) in their Schools' Council study.

In passing, the other aim identified in the Schools'
Council study was "the fullest development of the child's
potential". It is interesting to note that this latter aim
is qualitatively different from the former, for it implies
no ideal model to aim at. This point is also made by Haywood
(1977).

> "Since the goal is development, treatment in the
> sense of the treatment of disease is inappropriate.
> The goal of intervention in mental retardation is to
> enhance development, i.e., to bring about a level of
> development that the particular individual has never
> experienced before" (p. 13).

Leeming et al. do not attempt to distinguish the two types
of aim, yet a distinction does exist. The existence of an
ideal implies a work-centred approach determined by specific
goals. The aim of developing potential is essentially
child-centred. Of course there is no reason that the two
approaches cannot coexist, and in fact they do as Eisner
indicates.

> "There is much that we can do, and need to do,
> without a clear sense of what the objective is. Many
> of our most productive activities take the form of
> exploration or play. In such activities the task is
> not one of arriving at a preformed objective but
> rather to act, often with a sense of abandon,
> wonder, curiosity. Out of such activity rules may be

formed and objectives created" (Eisner,.1979, p.100).

A defence for an emerging profession

We have seen that the objectives approach was a natural choice for use in special education as it coexists comfortably with the idea that mental handicap is something to be treated. There is one other reason for its appeal to special educators. Eisner's "exploration and play" aimed at developing the child's "potential", but these activities and aims are very hard to pin down. The vision of appropriate education for children with severe learning difficulties is still at a very early stage of development in Scotland. Thus the teachers themselves tend to feel professionally vulnerable. They want, as the survey showed, specific advice on what and how to teach so that they can feel professionally respectable. This feeling of vulnerability may be exacerbated by "within-school" pressures in those regions of Scotland which continue to employ instructors. We have seen in Chapter Seven that there is still no explicit differentiation of the roles of teacher and instructor despite the attempt of the Melville Committee to achieve this in 1973 (Scottish Education Department, 1973). Both groups are therefore fulfilling the same duties, but they come to these duties with different qualifications, training, salaries, conditions of service and career prospects. This is fertile ground for rivalry in which the need to demonstrate achievement may become very important for the status of individual teachers and instructors, and

for the status of the professional groupings to which they belong.

Recommendations 2, 3 and 5 from the survey draw attention to the difficulties our sample of teachers and instructors had in finding direction in their work. Yet they did see a way of improving matters. The objectives approach to the curriculum would put them in control of their own daily teaching. It would make them feel accountable and it would give them specific schemes of well-graded activities for their pupils to follow.

Feelings of vulnerability are not confined to teachers and instructors. There have been severe restrictions on public spending in the 1970s and 1980s. These pressures have necessitated a demand for accountability by national and local government. For instance, Kirk noted among evidence submitted to the Dunning Committee (Scottish Education Department, 1977) "explicit" arguments that public accountability was one of the most important reasons for assessing school pupils.

> "(T)he Committee on Education of the General
> Assembly of the Church of Scotland insisted that one
> of the aims of the assessment and certification
> system was "to attempt to justify the expense of
> education to the whole community". And the evidence
> from Jordanhill College, having expressed disquiet
> that "any pupil should leave secondary school with
> low competence in communication, reading and
> numeracy", went on: "Society has a right to expect a
> better return for the enormous sums of money it
> invests in our schools""
> (Kirk, 1982, p. 26).

""Scientific management", as Taylor called it, appeared to give the mantle of respectability that schoolmen (in

Bobbitt's time) needed and wanted. By wrapping themselves in a scientific cloak, they believed they could protect themselves from the criticism that they were inefficient stewards of the schools. Although the modern concepts of quality assurance and quality control were not used then, a similar spirit was at work" (Eisner, 1979, p. 97).

Summary, and implications for this investigation

It is understandable that the objectives approach should appeal to teachers in special education. It provides them with clear sequences of procedures for attaining definable goals with pupils who have severe difficulty learning. But we have seen in Chapter Eight that there is concern about the way in which the objectives approach has been applied to the teaching of communication: ultimately, it produces dubious results; primarily, an enthusiastic parcelling-up of activities within the objectives methodology may equate teaching with filling in deficits of learning, and thus be aligned with the deficit view of mental handicap which was discussed in Chapter Nine.

There is nothing inherently wrong with a teaching approach which offers clarity of goals, systematic procedures, and scope for evaluation and accountability. However, these benefits should not attain such priority that they lower the already-low status of the learner, or represent unfaithfully the nature of the subject being taught.

CHAPTER ELEVEN

APPLIED LEARNING THEORY

Introduction

By definition, people with mental handicap have trouble
learning. But we have seen that the objectives approach
helps teachers select and present instructional activities
for their pupils so that they may learn more easily. There
is also an extensive body of knowledge on learning and
teaching which can complement the objectives approach so
that children will attain objectives more efficiently.

We saw in Chapter Eight that learning theory has had a
powerful influence on the teaching of communication to
people who are mentally handicapped. In this chapter we
shall see that its influence on special education extends
well beyond communication: it is part of the "prevailing
context" referred to in Chapter Six. As with the objectives
approach, learning theory has shown how "scientific
management" of effort is an efficient way of attaining
goals. Learning theory may also share with the objectives
approach a tendency to take a disease/deficit view of the
learner and of the subject matter of learning. This has
practical and theoretical implications which will be
considered here in the context of the development of applied
learning theory.

The development of applied learning theory

Learning theory has exercised a powerful influence on

curriculum development in special education for the last fifteen years, though the growth of that influence has been apparent for the last thirty years. In fact it is possible to find references to the uses of applied learning theory in very much older texts. For example, Forness and MacMillan (1970) identified procedures in the temple psychiatry of the Greeks that are consistent with learning principles described in the 20th century. Plato suggested that children should be taught through play, thus endorsing the principle of intrinsic reinforcement. And Roman writers referred to the practice of decimation, a forceful form of feedback aimed at making an unsuccessful army try harder next time.

More recently, Itard's treatment of the "Wild Boy of Aveyron" (Lane, 1977) at the end of the eighteenth century demonstrated the use of food as a reinforcer in operant learning. And in the first half of the 19th century a British naval captain called MacOnochie was experimenting with token economies (see, e.g., Sibbach and Ball, 1977) for changing convicts' behaviour and attitudes at the penal settlement on Norfolk Island (Pitts, 1976). However, like many a behaviour modifier after him, his work did not meet with approval and he was posted elsewhere.

Examples of applied learning theory often seem like applied commonsense. Indeed, this is one of the most persuasive selling points of learning theory. It brings out the hidden psychologist in the man in the street, for it helps him to understand and control the behaviour of other

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people and pet animals.

Applied commonsense has been around for as long as there have been organisms controlling other organisms. However, it was not until the 20th century that this body of theory became a documented experimental discipline. In particular, learning theory has been associated with the behaviourist movement in psychology. Essentially, behaviourism rejected "internal" approaches to psychology such as trait theory, faculty theory and psychoanalysis. Instead, it was concerned with establishing laws of association between "external" observable behavioural events.

J. B. Watson and early applications of behaviourism

It is usual to credit J. B. Watson with the foundation of the behaviourist movement. After all, he did coin the terms "behaviourism" and "behaviourist" (Concise Oxford Dictionary; Watson, 1913). However, the best-known modern behaviourist, B. F. Skinner, criticises Watson's lack of experimental method (Skinner, 1967, p.399) and prefers to see the roots of the movement in 19th century philosophers of science such as Mach, Poincare and Bridgman (Skinner, 1967, p.399).

It would have been very convenient for this dissertation if Watson could have been associated more strongly with the applications of behaviourism to education. He was a contemporary of the curriculum theorists Bobbitt and Charters. He was a student of Thorndike whose work on reward

learning was a major precursor of what is now called

"operant learning" and is most closely associated with B. F.

Skinner. He was also a student of Dewey. Dewey of course

took a humanistic approach to curriculum in contrast with

the mechanistic approach of the objectives movement. Perhaps

that is why Watson found Dewey incomprehensible! "I never

knew what he was talking about and unfortunately I still

don´t" (Watson, cited by Cohen, 1979, p.25). No doubt he

would also have had difficulty in reconciling his views with

Dewey´s subsequent caveat about behavioural technology and

ends-dominated curricula.

> "With an enormous command of instrumentalities, with
> possession of a secure technology, we glorify the
> past, and legalise and idealise the status quo,
> instead of seriously asking how we are to employ the
> means at our disposal so as to form an equitable and
> stable society"
> (Dewey, 1930, p.16).

But there is no direct link between Watson and his

contemporaries, the early curriculum theorists. Indeed there

are thirty years of literature on behaviourism from Watson´s

hey-day in the 1920s that have little relevance for the

problems of education. British education´s rejection of

behaviourism is commented upon favourably in 1936

(Valentine, 1936). And the only literature which has an

obvious bearing on the practice of teaching deals mainly

with the elimination of unwanted behaviours. Examples

include the reduction of children´s fears (Jones, 1924) and

the reduction of secondary facial movements in a person with

an athetoid condition (Rutherford, 1940). Applied learning

theory can reduce unwanted behaviour very effectively. This makes it a valuable behavioural tool for hard-pressed teachers and nurses. But many psychologists feel that the success of its power to inhibit may detract from its power to draw out new, desirable, adaptive behaviour (Leung, 1975; Berger, 1979).

Learning theory for developing new behaviour

Two journal articles, one in 1940 and the other in 1949, mark the beginning of a new wave of applications of learning theory. These were descriptions of using positive reinforcement to obtain anticipatory responses from people with profound learning difficulties (Rutherford, 1940; Fuller, 1949). The papers are significant because they demonstrated that very severely handicapped people could be taught to function at a higher level than had been thought possible. They are also the first documented reports of learning theory being used for encouraging the development of an advanced form of behaviour rather than for inhibiting an unwanted behaviour. Finally, they demonstrate the technique of building a developmentally more mature response from responses that already existed in embryonic form in a person's repertoire of behaviour.

Rutherford's and Fuller's papers are interesting historically in the development of systematic instruction. But it is probably more appropriate to trace modern developments in the instruction of people with handicaps to

a source that is very slightly more recent. This source is
B. F. Skinner's theory of operant learning which had its
first major exposition in the 1950s.

The influence of B. F. Skinner

B. F. Skinner, professor of psychology at Harvard, is
recognised as the originator of contemporary developments in
applying learning theory to the practice of teaching. His
earliest major statement on behaviourism was "The Behavior
of Organisms" (Skinner, 1938), but in the 1950s he began to
produce a number of publications which have had a
significant influence on education. These include the
textbooks "Science and Human Behaviour" (1953) and "Verbal
Behavior" (1957), and the journal article "The Science of
Learning and the Art of Teaching" (1954).

Now it is possible to trace a line of applied behavioural
techniques from contemporaries of Skinner back to Watson,
but they differ in at least one important way from the
techniques of Skinner. The non-Skinnerian works are
concerned primarily with the elimination of "aberrant"
behaviour such as neurosis or self-mutilation. They are
clinical psychological applications aimed at the removal of
abnormal symptoms and at the restoration of mental health.

This type of behaviour therapy had a powerful influence on
the development of clinical psychology in Great Britain
(see, for example, Eysenck,1952) and in the U.S.A. (see, for
example, Wolpe, 1958), and helped to earn it a professional

identity distinct from medicine and nursing. Formerly it had been regarded as a poor and dispensable relation of psychiatry, as may be seen in the 1960 edition of Mayer-Gross's "Clinical Psychiatry" (Mayer-Gross, Slater and Roth, 1960). Applied behaviourism gave clinical psychologists their own unique area of expertise; a body of techniques which could lessen or remove aberrant behaviour and improve people's quality of life. Perhaps behavioural techniques were referred to so frequently in our Survey because teachers and instructors also saw in them the prospects of acquiring professional respectability by showing that they could change the lives of children with very severe disabilities.

However, the point to be made here is that the clinical psychologists had developed techniques for unteaching aberrant behaviour. By contrast, Skinner was mainly concerned with teaching new skills, information and styles of response where none had existed previously. The essential key to learning and teaching was reinforcement, that is to say, "all events that strengthen behaviour" (Skinner, 1953, p. 65). From this simple statement he went on to develop theories of teaching and learning which can be seen at work in all aspects of the behaviour of organisms. In particular there are three developments of Skinner's work which are important for this investigation as they show the merging of learning theory with the objectives approach to the curriculum. These three are programmed instruction,

contingency management and behavioural engineering.

Programmed instruction

Skinner had pioneered an approach to teaching in the early
1950s in which the central elements were

> the arrangement of educational materials so that a
> student had a high chance of making a correct
> response and

> the provision of means of informing the student when
> these responses were made.

The arrangement of materials became known as a "program" and
the technique as "programmed instruction". Originally the
approach was associated with teaching machines, gadgets
which contained the lesson materials and organised the
presentation of feedback so that the student was conducted
through the sequence at the rate best suited to his
aptitude.

It was clear by the early 1960s that the program was more
important than the machine. Snelbecker (1974) described its
key attributes.

> The program should consist of a sequence of short,
> relatively simple steps. It will begin with tasks
> which the students can handle and which will lead
> them to tasks they could not handle at the start of
> the sequence.

> Students should have an active part in the
> educational process. For example they may have to
> construct responses rather than simply choose from a
> set of multiple responses.

> Positive reinforcement should follow each correct
> response.

> The program should, as far as possible, allow
> students to work at their own pace.

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> The program should enable students to attain the
> educational objectives of the program's compilers.

(Adapted from Snelbecker, 1974, p. 392-3.)

The reference to educational objectives in the fifth
section confirms the natural links between process and
content in an objectives-based curriculum. The content of an
objectives-based curriculum is a group of aims which can be
reduced to, and expressed more specifically as, objectives.
Behavioural principles can be used to guide learners towards
the objectives of the curriculum. Further, programmed
instruction can be used to enable teachers to acquire the
skills that will enable them in their turn to move children
towards the curricular objectives.

Contingency management

Contingency management is concerned with bringing the use of
reinforcement under control so that it best meets the aims
of the service in which it is operating. Accordingly, staff
in the schools, hospitals and training centres may be taught
to reinforce learners for acting appropriately and not to
reinforce them for acting inappropriately. The origins of
this approach can be traced easily to Skinner's work with
pigeons and non-human species. However, the clinicians who
put it into practice felt constrained by the focus on higher
cognitive and linguistic functions which the operant
approach had taken as a result of Skinner's work on
developing these functions through teaching machines and
programmed learning (Snelbecker, 1974). Staff in psychiatric

hospitals, in subnormality institutions, and in special education could see the potential for applications of learning theory in a much wider range of settings than teaching reading, writing and arithmetic. These clinical staff acknowledge their debt to Skinner, but their applications are in fields which Skinner did not tackle. A good example is the comprehensive range of life-skills which Wehman (1979) has arranged as targets to be reached by teaching along behavioural lines. Some of these targets are of the medical-model variety, including the reduction of anti-social and self-injurious behaviour. But it should be noted that this bias towards the medical model is heavily outweighed by a concern for teaching people skills, in areas such as home management, which have the potential for enhancing personal autonomy.

Behavioural engineering

Behavioural engineering is more eclectic in its theoretical outlook. It draws from theorists other than Skinner and is prepared to modify existing concepts of learning theory to respond to practical needs. Ideas which do not come from Skinner are applied, but the behavioural engineers would acknowledge the importance of one original Skinnerian premise; the results of intervention or teaching can be measured. Lindsley (Snelbecker, 1974, p. 398) asserted that the major contribution of the operant approach is that it allows measures of instruction to be evaluated and improved.

This observation is interesting as Lindsley was an educationist. Thirty years after Bobbitt, he saw the same potential for applied behaviourism in education that Bobbitt had seen for Taylor's "cult of efficiency".

The reasons for behavioural engineering's departure from the original Skinnerian principles is that the practical demands of work cannot always be met conveniently within the constraints of a single conceptual framework. For example, punishment is a theme which Skinner does not explore far (on behavioural as well as on compassionate grounds). Yet behaviourists such as L. S. Watson (1973) and Neisworth and Smith (1973) find punishment useful for controlling acting-out behaviour. Again, Lovaas et al. (1965) advocated training psychotic children by techniques which seem exceedingly harsh when compared with Skinner's positive reinforcement.

Once again, those who work with people who have severe handicaps are faced with the logistic problem which was mentioned at the end of the previous section. Behavioural engineering gives them the power to change people's lives. Will they use this power simply to reduce behaviour, such as self-mutilation, which is injurious to handicapped people and irritating and frustrating to the staff who work with them? Or will they accept the challenge to go one step further, and use this power to promote new or higher standards of useful functioning?

Conclusions

There is no doubt that behavioural techniques have been used highly successfully in the education of children who are severely mentally handicapped. Behavioural techniques have been used to teach children social skills such as dressing, grooming, feeding and toileting (Wehman, 1979; Gardner, 1971; Watson, 1973). Essentially the same techniques have been used to encourage children who are mentally handicapped to enjoy play and recreation (Thompson and Grabowski, 1977; Amary (cited by Wehman, 1979, p. 105)), and to prepare them for coping with the daily routines of employment (Whelan and Speake, 1979). Behavioural techniques have been used to teach scholastic skills (Wehman, 1979; Deno, Gutmann and Fullmer, 1977; Ainscow and Tweddle, 1979). And we have already seen (Chapter Eight) that there have been extensive applications of a combined objectives/behaviourist contribution to the teaching of communication.

The alliance of the objectives approach with learning theory is the prevailing context of developments in the curriculum for children with severe and profound mental handicap. It has certainly made a significant and beneficial impact on the lives of many people. Yet it has its roots in the assumption that people have deficits to be filled in, even if these deficits are no more serious than a lack of knowledge or skill. Responding to deficits has led the alliance into several controversies. These controversies will now be reviewed as they help explain the ambivalence of

the Survey´s teachers and instructors towards objectives and behaviourism. The review will also clarify issues about designing a curriculum in communication and introducing it to school staff.

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CHAPTER TWELVE

CONTROVERSIES OF APPLIED LEARNING THEORY

Introduction

The controversies which arise out of the alliance of
learning theory and the objectives approach can be grouped
conveniently under the following four headings.

    1   A narrow view of learning.

    2   Ethical problems.

    3   A curriculum dominated by behavioural methodology.

    4   The teacher as tutor and tutored.

Each of these will now be discussed, and their relevance
for this investigation will be outlined.

A narrow view of learning

The first difficulty to be recognised is that operant
learning theory is only one of the ways of looking at
learning. Operant learning theory can claim that its
constructs are objective and measurable. Yet there are more
mentalistic ways of looking at learning that ought to be
acknowledged also.

The aim of many applications of learning theory is that
the newly learned behaviour will take place in appropriate
circumstances in which it has not been specifically taught.
In short, generalisation will take place. There will be no
reinforcement of the type that was given during training in
most of these new generalised circumstances. Reinforcement
will not be planned. It may even come from the satisfaction

of completing the learned task successfully. Virtue has become its own reward. But virtue and satisfaction cannot be measured, and that is something which is not unusual across the broad spectrum of the psychology of learning.

The "drive states" (and their reduction) which were described by Clark Hull (Hull, 1943) could not be quantified. Harlow (1959) used the mentalistic concept of "curiosity" to explain the behaviour of his monkeys. It made sense of the behaviour that they were displaying. And curiosity is a valuable source to exploit when young children are being taught. Festinger's "cognitive dissonance" (Festinger, 1957) and Piaget's image of intelligence as an active striving to restore equilibrium (Piaget, 1950) are further examples of inner immeasurable states which explain learning and behaviour both adequately and convincingly.

Then there is the extensive literature on motivation. It would be possible to explain the phenomena of motivation in behavioural terms, but this may not be a particularly useful exercise. The motivation theorist M. L. Maehr describes the conflict he had to resolve as a graduate student in the 1950s. He had had a strictly behaviourist training in psychology yet, increasingly, he found that he needed to use subjective constructs such as "self-concept" and "self-actualisation" to describe the phenomena in which he was interested (Maehr, 1984, p. 141). For instance, he showed that that reinforcement provided by a teacher is not

the only force at work in programmed instruction. Teaching
machines and programmed instruction undoubtedly promote the
learning of new material, and increase attention and memory.
But Maehr found that students' interest is likely to wane
when a task becomes too easy and 100% reinforcement is more
or less assured. He concluded that students were likely to
persist with teaching machines when they were motivated by
some sort of challenge, perhaps just the risk that they
might be wrong (Maehr, cited by MacMillan, 1973, p. 215).
Instruction may be programmed scientifically, but
mentalistic notions such as "challenge", "risk" and
"motivation" make it more likely to be successful. This
principle has been followed by recent developments in the
use of micro-computers in British primary schools. For
instance, the mathematics programs produced by Peak
Mathematics include amusing screen displays to tell pupils
that they have made incorrect decisions. However, they guard
against pupils trying deliberately to make the computer
produce the error response by making that outcome a definite
challenge to achieve repeatedly.

General psychology thus has a need for mentalistic
concepts. There are also important examples from areas of
psychology that are close to the issues of this
dissertation. For instance, developmental psychologists such
as Hunt (1961), White (1979), Uzgiris and Hunt (1975) and
Uzgiris and Weizmann (1977) find it useful to talk of
motivation rather than of reinforcement to explain how

children learn to master their environment. Earlier in the
dissertation, there has been a reference to Chomsky's (1959)
dissatisfaction with Skinner's claim that reinforcement is
an objective, measurable concept. Also in the area of
communication, Russians such as Luria (1961), Vygotsky
(1962) and, more recently, Markova (1979) have shown the
importance of the verbal regulation of behaviour.
"Self-directing" (Rees, 1973), or "self-monitoring" (Tough,
1976), language is a good example of verbal regulation. Its
roots are detectable early in children's development of
language (Rees, 1973), and continue into adulthood when we
say to ourselves "Good!", "That's right!" or "Wrong!" when
we are responding to a challenge. This kind of reinforcement
rings true to the experience of many people even although it
cannot be proved to exist.

Finally, the subjective aspects of objective and
measurable reinforcement should be considered. Even if all
behaviour is learned there is no reason to assume that all
individuals learn in the same way and that all will respond
similarly to the same reinforcers. It is possible to account
for these differences in operant behavioural terms. But it
is equally plausible to suggest that internal control in the
form of personal preference may be as important as the
external control of a reinforcement which is imposed by a
teacher or experimenter.

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Summary of this section

The phenomena of learning may be understood in many different ways. It may not always be appropriate to describe these phenomena in terms of operant learning. Mentalistic concepts such as "motivation", "interest" and "curiosity" should be taken into account when planning a curriculum.

Ethical Problems

Many of the groups who are taught by deliberately behavioural methods may be thought of as disadvantaged. Emotionally disturbed people, and people with mental handicap are typical examples. The message in this is that they are groups who need things to be done to them rather than groups who have control over what and how they will learn. By contrast, secondary-school pupils, university students and adult learners are rarely compelled to follow blatantly behavioural regimes of teaching.

The greatest controversy about behavioural techniques is probably that which concerns "behaviour modification". This term is used frequently to describe techniques for discouraging unwanted behaviour and for encouraging desired behaviour by means of contingency reinforcement and behavioural engineering. There is considerable variation in the use of the term, but there is no merit in making it too specific (Rimm and Masters, 1979, p.1). The teachers and instructors who were interviewed in the Survey (Chapter Seven) regarded behaviour modification as any structured

systematic teaching that made controlled use of prompting (Neisworth and Smith, 1973) and reinforcement. In general, the teachers and instructors were concerned about the use of behaviour modification. Some of them objected simply to the amount of paperwork that they had heard was involved in behavioural teaching. Others took a more philosophical stance, and expressed concern about the possible abuse of power which behaviour modification could facilitate.

All teachers attempt to change pupils and students, to add to their knowledge, change their behaviour and influence their attitudes (Tones, 1978). This expectation generally meets little opposition, yet when teaching takes the form of behaviour modification it seems to throw some of the underlying themes of teaching into sharp relief. For example, might behaviour modifiers be more concerned with reducing disruptive behaviour shown by their clients than with promoting the acquisition of useful skills (Leung, 1975; Berger, 1979)? Some of the Survey teachers were also alarmed by tales of the effectiveness of behaviour modification. They felt that it resembled animal training too closely and therefore was an abuse of power, and too degrading to apply to children. They were, of course, doing themselves the injustice of forgetting that they had the right to choose how and when behavioural techniques might be used. They did not have to repeat practices with which they disagreed and, by their dismissal of them, had not considered the extent to which these techniques might offer

a wider range of effective ways of teaching.

Another ethical difficulty about behavioural techniques also has practical implications. Quite frequently, the teachers and instructors from the Survey said that they were not in favour of "rewarding" children. By "rewarding" they meant reinforcement by sweets specifically, and by any food in general. They had several reasons. Sweets were bad for children. Rewards should be reserved for acts of exceptional effort and merit. Success, not sweets, should be the true reward of success. Again, the behaviourist has no difficulty responding to this argument. First, there are many more forms of reinforcement than sweets. Also, reinforcement is not a reward. It is a consequence of an act, aimed at strengthening the act for future use. It is interesting to find that Bobbitt made a similar point.

> "Pleasure is only a lure that nature employs to draw
> each of her creatures into action so that he may get
> the practice necessary for the growth of his powers"
> (Bobbitt, 1941, p. 36).

Punishment poses a different set of problems. Skinner himself saw no value in it.

> "But our task is not to encourage moral struggle or
> to build or to demonstrate inner virtues. It is to
> make life less punishing and in doing so to release
> for more reinforcing activities the time and energy
> consumed in the avoidance of punishment"
> ("Beyond Freedom and Dignity", 1971, p.83).

Punishment is the opposite of reinforcement. It is a consequence of an act that weakens the act. This seems bland enough, but punishment in behaviour modification causes more serious concern. For instance, Lovaas advocated the use of

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harsh treatment, including electric shocks, for establishing
stimulus control and for overcoming stereotyped behaviour in
autistic children (Lovaas, 1966; Lovaas, Schaeffer and
Simmons, 1965). During the Survey, concern was also
expressed about the use of "time-out" (Neisworth and Smith,
1978) to distance children from situations in which conflict
or undesirable behaviour has reached such a pitch that
teacher and learner both need a break. Decisions about the
use of unpleasant experiences such as punishment and
time-out require teachers to gauge the extent to which ends
justify means. But decisions must be taken, especially when
no action from the teacher may mean the perpetuation of
grossly disturbed or self-injurious behaviour.

Fortunately, discussion of sensational consequences such
as electric shock is not necessary in this investigation.
Indeed, MacMillan (1973) gives a good apology for behaviour
modification when he says that much of the criticism of it
amounts to "creating a straw man to attack".

> "Used by knowledgeable professionals, behaviour
> modification can be a helping tool for children;
> misused by those with poor judgement or questionable
> motives it can be harmful. To date I know of no
> screening device for determining who should be
> allowed to learn the techniques derived from
> learning theory"
> (MacMillan, 1973, p.223).

The concern about behaviour modification which was
expressed by interviewees in the Survey often sounded like
attacks against a straw man which they knew only vaguely.

Why did they have this perception? The responses of the
interviewees in the Survey made it clear that few had

first-hand experience of systematic teaching. It did not
conform to images of what they thought teaching was about in
terms of how they had been taught to teach and in terms of
how they themselves had been taught at school. Neither was
the image of the pupil as one element in a mechanistic .
process of learning true to their perceptions of schooling.
This is a point at which it is useful to see two other
bodies of knowledge in the context of teaching applied
learning theory to teachers. One, social psychology, helps
to explain the difficulties of attitude teachers may have
when they are asked to adopt new styles of work. The other,
curriculum development theory, provides guidance on how
teachers may be encouraged to look at new practices with a
view to incorporating them in their professional repertoire.

In the context of social psychology the problem may be
thought of as one of "cognitive dissonance" (Festinger,
1957; Wicklund and Frey, 1981). In terms of this theory, our
"perceptual field ... is organised according to certain
rudimentary rules about how things are related" (Wicklund
and Frey, 1981, p. 148). The "perceptual field" is a
wide-ranging concept which, in the context of this study,
would include the teacher´s perception of teaching.
Dissonance would occur if the teacher is confronted by an
image of teaching "that perceptually does not fit together"
(ibid., p. 149) with her image of what teaching is. From her
professional training and experience, from her society´s
perceptions and assumptions about education, and from her

own experience as a school pupil, teaching has become part
of her: a "nucle(us) of stability and habitual ways of doing
things, a community of meanings among those who participate
in it" (Moscovici, 1981, p. 187). Moscovici goes on to state
that this stability is threatened "when something or
somebody no longer conforms to our representations or no
longer corresponds to prototype". The proposal that teachers
should develop new practices and attitudes towards teaching
is the example of induced instability with which we are
faced here.

The destabilisation of perception which results from
proposed changes in practice is understandable but need not
be a total barrier to development. The skill of the
curriculum developer lies in presenting an innovation as a
challenge so that the teacher sees an extension of her
professional service in the innovation and does not reject
it out of hand. McCormick and James (1983), in discussing
how to encourage teachers to take part in curriculum
evaluation, note that if evaluation "is initiated and
conducted by teachers in response to their own perceived
needs and interests (it) has a greater capacity to promote
professional development, because the role of teachers is
extended but their autonomy is preserved" (p. 41). This
seems to be a general principle which may be extended beyond
evaluation into other areas of curriculum development.
Innovation may create cognitive dissonance by threatening
the stability of teachers´ perceptions of their job. But the

outcome of the dissonance need not be rejection if it is presented thoughtfully. The Schools´ Council "came to view its tasks as increasing the range of choice available to teachers but in no way prescribing how and what they taught" (McCormick and James, 1983, p. 30). The following example from the director of a well-known Schools´ Council project, "Science 5-13", shows how the strange and unpalatable may be seen in a different light if it really has a bearing on daily practice.

> "(W)e started each programme with a ... lecture and discussion of objectives. A glaze came over the course-members" eyes which was not dispelled until we had started them on some relevant practical work. ... This was much more profitable; it put objectives in perspective, and they saw them not as a miscellany of discrete ends to be achieved, but collectively as a guide to open-ended work with their children ... as a framework to support their own pattern of thinking shaped by their own circumstances and suited to their own children".

> (Ennever, 1980, p. 113)

The affective response of seeing value in the innovation seems to be as important as the desired change in practice, and is probably a prerequisite of it. This message applies no less in the area of teaching early communication than it does in teaching secondary school science.

Implications of this section

1 Teachers and instructors who use deliberately behavioural techniques should be aware of the sensitive balance between an efficient style of teaching and a powerful form of social control.

2   Teachers should be encouraged to see that reinforcement
    is a means to an end, without the connotations of
    value-judgement that are implicit in "reward".

3   Teachers and instructors should be provided with examples
    of reinforcement that are both appropriate to their
    teaching activities.

4   Teachers and instructors should be helped to create good
    circumstances for learning, rather than consider
    punishment as a means of establishing stimulus control.

5   Teachers and instructors should be encouraged to see the
    techniques of systematic instruction as an extension of
    their professional repertoire, and not as a completely
    new method which commits them to unfamiliar views of
    teaching and of the pupil.

A curriculum dominated by behavioural methodology

In the course of fieldwork for the Survey (Chapter Seven)
two schools were visited where "language programmes" were in
operation. One of these was the "say "hammer"" programme
which was outlined in Chapter Nine. Both of them took a very
simplistic, milestoned view of communication which would be
difficult to justify in terms of any theory of
communication. The content of the programmes did not seem to
matter to the school staff. What did matter was that they
(the staff) were seen to be working. A fixed curriculum
covering a wide range of children's development had been
produced. Every child was expected to fit into this

programme at some point on it. Periods of free play did exist but they seemed to be temporary aberrations from the real purpose of the school day, namely, getting through the programme.

Both schools made extensive use of checklists. The technology of behaviour modification appeared to have taken over. The tool had become the machine. Chart-ticking made the staff feel accountable, but both the tickers and those who had told them to tick had not stopped to ask if what they were charting was a worthwhile set of objectives.

The fact that behavioural techniques can be seen to "work" may also stop teachers questioning the value or the content of what they are trying to teach. For example, several children who were seen learning nonverbal systems of communication during later fieldwork of the Early Communicative Skills Project appeared to be learning the symbols of the systems without any purpose. They were not using the symbols to communicate but to take part in an exercise in auditory-motor association. "When the teacher says word X, my hands have to form shape Y". The aims of teaching communication had been lost because immediate objectives were in their way.

Finally, there are problems when behaviour modification fails. This can happen when, for example, staff set behavioural objectives for children who are so profoundly handicapped that they seem to spend most of their lives in coma. More often than not it makes no sense to set

behavioural objectives when a reflex action to stimulation is what may be expected at best, and when no response at all is quite likely, especially when the child is unwell. Inept prescription of objectives will raise false hopes of progress among teachers and parents. The subsequent failure may cast doubt on the competence of school staff. Of course, "failure" is not a correct description of what has happened. "Inappropriate education" or "inappropriate aims" would be nearer the truth. However, teachers and instructors have heard of schools where it is said that behaviour modification and "programming" work; this was clear during the Survey. And teachers and instructors wanted access to the philosopher's stone.

Implications of this section

We do not want a "content-free education" in which the substance of what is taught has become secondary to the style of teaching. Decisions about what to teach should be taken in the light of knowledge of a child's needs, abilities and personal attributes (COSPEN, 1984). The implication for planning a curriculum in communication is that an "honest" (Bruner, 1974, p.32) view of communication should be taught by effective techniques. It is not that we should find a view of communication that may be shoehorned easily into a universal-fitting set of procedures for teaching. This does no service to the pupils and is a misuse of a valuable technology of teaching.

The teacher as tutor and tutored

There is no doubt that teachers need special skills if they are to use some form of systematic instruction with children who have severe mental handicap. Teachers of special education in Scotland all trained initially as mainstream primary- or secondary-school teachers. Therefore their professional background is in forms of practice which are markedly different from that of an objectives, behavioural approach. Perhaps it should not be surprising that the techniques used for training teachers in these new behavioural skills are themselves often overtly behavioural.

For example, there is Project T.A.S.S. (Training and the Severely Subnormal) (Robson, Jones and Storey, 1982) which ran at Huddersfield Polytechnic from 1976 to 1980. The aim of Project T.A.S.S. was to promote the skills of teachers working with children who were just able to combine words to form their earliest two-word sentences. In particular, the teachers would learn the techniques of behaviour modification to encourage the production of sentences that were more mature syntactically. And the techniques used to teach the teachers were behaviour modification and the objectives approach. Particular teaching skills, such as "making full use of existing speech" were isolated and translated into sets of objectives that were to be met during the teacher-training programme. Televised feedback was used to monitor success.

The Education of the Developmentally Young (E.D.Y.)

project (Foxen and McBrien 1981) used a very similar approach to training. It was different from T.A.S.S. in that it aimed to teach teachers the skills of behaviour modification across the curriculum rather than confine them to language alone, as T.A.S.S. had done. The rationale was that if the techniques were known, the content could be inserted as circumstances dictated. Taken to a logical conclusion, this is to state that the structure of the subjects of the curriculum is irrelevant. All subjects are reducible to sequences of objectives which can be taught by behaviour modification.

Both Project T.A.S.S. and the E.D.Y. Project acknowledge the influence of Borg's "mini-courses" (Borg, 1971). As the label implies, mini-courses tackled the teaching of a very restricted range of skills over a short and intense period. The lessons of Borg's mini-courses had the following basic characteristics:

> a specific teaching skill is studied by the student
>
> the student attempts to apply the skill in a short lesson, usually five to ten minutes long
>
> this lesson is recorded on videotape, and the student watches replay immediately after completing the lesson
>
> a supervisor gives the student feedback on his performance during the replay
>
> the student then replans the lesson and teaches it again.
>
> (After Borg, 1971, p.15.)

Borg developed mini-courses because he and the staff of the Far West Laboratory for Educational Research and

development believed that the classroom skills of in-service teachers need to be improved. But what aspects of a teacher's practice are to be changed, and who is to decide the direction of change?

Teachers of children with severe learning difficulties may be at greater risk than any group of teachers of having their professional worth devalued by specialists from other disciplines. They are working with a population of children who have disabilities which frequently require the intervention of medical and paramedical agencies. They are teaching a population of children on whom the pioneering work has been carried out by a separate profession, the psychologists. No wonder the Survey showed that teachers and instructors felt uncertain about their professional identity. But perhaps by too readily accepting that psychologists should take responsibility for re-skilling them and should take responsibility for what they should teach, teachers are undermining their own worth still further.

Implications of this section

There is no plot to de-skill teachers and undermine their confidence. Teachers should see in-service training as a means of acquiring new skills and knowledge that will give them more control and self-assurance in their daily practice. Therefore exercises in curriculum development should enable teachers to take decisions and exercise skills of their own accord, rather than depend on outside

direction. If this kind of autonomy does not occur, then there has been no generalisation of the skills taught in in-service courses. The teachers themselves then may become as passive and dependent as pupils who are handicapped by disabilities and an unsatisfactory curriculum.

CHAPTER THIRTEEN

FIRST STEPS FROM THEORY TO PRACTICE

Introduction

Early in Chapter Five there is a reference to Bruner's conviction that a theory of development and a theory of knowledge were "doomed to triviality" unless they were linked to a theory of instruction (Bruner, 1966, p.21). Bruner recognises through this statement that there are relationships which link the structure, the developmental aspects and the teaching of a subject. It led us to consider, from Chapter Five to Chapter Twelve, how these three aspects of a subject cast light on the place of communication in the curriculum for children with severe and profound learning difficulties. Initially, this chapter will draw together the implications of the theories which have been considered in the study and, latterly, will provide the outline of a first attempt at translating them into practice.

Qualities of the interrelationship of subject, development and instruction

The study has considered many aspects of the relationship of subject, development and teaching, directly and indirectly. The subject and its structure have been discussed in Chapters Four and Five. This discussion led to a case being made for understanding communication in terms of pragmatic psycholinguistics. The developmental aspects of communication were discussed in Chapter Six, where we saw

that Nakazima's description of the development of phonology
was also a useful way of understanding the development of
the pragmatic aspects of early communication, at and below
the onset of speech. And from Chapters Eight to Twelve we
have seen the influence of a <u>theory of instruction</u> which has
exercised a strong influence on the production of programmes
of communicative activities for children with severe and
profound learning difficulties. Finally, Chapter Seven has
yielded some useful guidance on how subject, development and
instruction may be drawn together for the practical purposes
of teaching. This was achieved by considering the opinions
of teachers and instructors on their work and on the
assistance they felt they required to find greater purpose
and direction.

Bruner has also shown how the three aspects of the
relationship may be drawn together. His elaboration of the
nature of a theory of instruction does not consider
instruction in isolation, but in association with the
subject and its developmental qualities. This understanding
of instruction provides a useful point of departure for
considering how our review of communication and teaching may
be a source of direction for daily practice in the schools.
Bruner, then, believes that a theory of instruction should
have four major features. It should specify:

> "the experiences which most effectively implant in
> the individual a predisposition toward learning"

> "the ways in which a body of knowledge should be
> structured so that it can be most readily grasped by
> the learner"

"the most effective sequences in which to present
the material to be learned"

"the nature and pacing of rewards and punishments in
the process of teaching and learning"

(Bruner, 1966, p. 40, 41).

Let us now consider each of these criteria to discover the

extent to which they clarify the nature, development and

teaching of communication.

Bruner's four criteria of a theory of instruction and their implications for practice

Criterion 1. The theory should specify "the experiences
which most effectively implant in the individual a
predisposition towards learning".

More simply, this invites us to discover ways which make

children want to learn. Skinner observed that "there are two

Arabic words for "teaching". One, daras, means literally to

teach; the other, t'allam, means to make to learn" (cited by

Copeland, 1986, p.13). And Galileo has been credited with

saying that "you cannot teach a man anything; you can only

help him to find it within himself" (Weisgerber, 1979,

p.64). We have seen at various points in this study how

important it is for children to participate actively in the

process of communication rather than be the passive

recipients of teaching. For example, Chapter Four suggests

that communication is essentially an activity which people

take part in spontaneously because it serves a purpose for

them. To paraphrase the last quotation from Bruner,

experiences "implant in the individual a predisposition

towards communicating". Bryen and Joyce, cited throughout Chapter Eight, showed that the programmes in communication which had the greatest success were those in which spontaneous interaction between pupils and teachers was fostered. "(T)hose studies which used either interactional strategies alone, or interactional strategies in addition to operant methods were generally successful" (Bryen and Joyce, 1985, p. 32). And support for teaching strategies which aim to engage the voluntary participation of the learner also comes from the area of motivation theory, where Maehr has argued the case for taking account of voluntary commitment, or what he calls "personal investment", in learning and other activities which bring achievement (Maehr, 1984).

Finally, there is one incidental consequence of striving to find materials and experiences which will interest pupils so much that they will want to communicate spontaneously. It is that teachers may find themselves teaching essentially similar concepts in a variety of ways, situations and activities. This variety will increase the pupils' exposure to the "redundant" (but essential) information which was described in Chapter Four, and thus may help to build and maintain their grasp of important concepts.

Recommendations from this section

1 Teachers and instructors should know that communication is functional and interactional by nature. Therefore, teaching should occur in contexts which encourage pupils to communicate spontaneously. (Similar recommendations appear

among the implications listed in Table 9.)

2 Instruction should occur in a wide variety of forms and

with a wide variety of materials so that children with

learning difficulties have the best possible chance of

having experience of materials which will interest them and

encourage them to communicate. Attention to this

recommendation will also increase their opportunities for

exposure to "redundant" information which they may use to

develop their grasp of concepts.

Criterion 2. The theory should specify "the ways in which a
body of knowledge should be structured so that it can be
most readily grasped by the learner".

This issue draws together four themes related to the

structure of communication which were discussed in Chapters

Four, Five and Six. These themes are the functional

("pragmatic") view of communication (Chapters Four, Five and

Six); the rules which govern the processes and content of

communication, such as grammar and vocabulary (Chapter

Five); the rules which determine the quality of the

interaction of communication (Chapter Four); and the process

of the development of communication (Chapter Five and Six).

What is the structure in each of these themes, and how may

it be presented coherently?

Function Structure in the function of communication is

evident in the classification systems of the functions, two

of which systems were outlined in Chapter Four (Halliday,

1975; Tough, 1976, 77a). We have seen that similar functions

may be observed in the actions of preverbal children (Dore,

1973; Bates et al., 1975). Therefore it should be possible to provide opportunities for pupils to experience the functions of communication across most of the developmental range considered in this study. However, there is no evidence of any attempt to chart the development of any of these functions systematically. We are left simply with the fact that they have been observed at different levels of children's development. This difficulty is shared by the theme concerned with the processes and content of communication and will be dealt with again, below.

   <u>Processes and content of communication</u> At first glance, this theme seems to create a problem because there is a barrier on the range of development at the point of acquisition of speech. Above that barrier, the classification of verbal communication into semantics and syntax (see Chapter Five) allows structure to be seen. In semantics, the "library of experience" (Sanders, 1976) classifies words into useful conceptual groupings such as those described by Gillham (1979). In syntax, structure may be seen in the rules for forming phrases, sentences, and compound forms of words such as participles, comparatives and plurals. But it is difficult to see structure in forms of communication below the verbal level.

   One solution to this problem is to look for structure in the actions of children at the preverbal stages on the grounds of the relationship, discussed in Chapter Four, between preverbal actions and the subsequent development of

language. Piaget created a useful classification of actions

or "schemes" at the sensorimotor stage of development

(Uzgiris and Hunt, 1975) and this is described below in

Table 10.

TABLE 10

The six sensorimotor schemes identified by Piaget.

SCALE	PIAGETIAN LABEL	EXPLANATION
1	The development of visual pursuit and the permanence of objects.	Tracking moving objects; realising that an object continues to exist after it has disappeared from view.
2	The development of means for obtaining desired environmental events	Recognising own power to change one's surroundings and meet one's own needs.
3	The development of imitation: vocal and gestural.	(Self-explanatory)
4	The development of operational causality.	Recognising cause-effect relationships.
5	The construction of object relations in space	Realising the importance of gravity, balance and the position of objects in relation to each other.
6	The development of schemes for relating to objects.	Manipulating and exploring the properties of objects and materials. The naming of objects is the highest point on this scale.

(After Piaget 1936, 1937; Uzgiris & Hunt, 1975)

This classification of actions became the basis of a set

of infant psychological development scales (Uzgiris and

Hunt, 1975) which was soon seen to have potential for the

assessment of children with severe learning difficulties

(Kahn, 1977) and which is now in common use.in local authority child guidance services.

Inspection of Table 10 may suggest that the six types of action could also be described as "functions", and this suggestion helps to create a blurring of the boundary between the functions of the previous section and the processes of this section. The distinction may be made clearer by describing the sensorimotor activities as processes which may be observed in children's actions, and the functions as what these activities achieve, though this argument is rather circular. However, there may be an advantage of blurring the boundary, because Uzgiris and Hunt have provided us with a path of development along each of the schemes, across the range of children at the sensorimotor stage. Though there may be some doubt about the accuracy of the minutiae of individual steps, these paths provide a clear guide to the characteristics of the actions at different developmental stages, whereas no comparable paths of development exist for the development of functions described by Halliday (1975) and Tough (1976, 1977a).

It is interesting to note that there is an example of a similar blurring of functions and processes in the area of verbal communication. Downes (1978), working on a Schools Council Project which was contemporary with the Schools Council project of Tough, listed the following seven

"skills" which children used when they communicated:

    listening
    naming
    categorising
    describing
    denoting position
    sequencing
    reasoning.

These skills are processes which may be observed during

communication, yet they may also be thought of as functions

which communication fulfils. Perhaps, then, there may be

higher-order functions, such as those in the Halliday and

Tough classifications, and lower-order functions, such as

the Downes' list of skills, though it would be difficult to

argue strongly in favour of the distinction.

<u>Interaction</u> The clarification of rules which govern the

achievement of successful communication provides evidence of

structure in the area of interaction. We have seen in this

chapter and in Chapter Four that feedback and redundant

information are important means of ensuring intelligibility

once people have learned to speak. However, feedback has

already been considered in this study with reference to its

importance in the development of the emotional relationship

between mother and child (Trevarthen, 1977), the development

of perception (Bower, 1977), and in the development of the

onset of speech (Jeffree and McConkey, 1976b; Jeffree,

McConkey and Hewson, 1977a, 1977b; Cheseldine and McConkey,

1979; Davis and Oliver, 1980; Peterson and Sherrod, 1982;

Cardoso-Martins and Mervis, 1985; Arkell, 1986). McConkey

has also shown that similar rules to those for fostering speech may be used with children at preverbal levels of development to encourage more advanced forms of play (McConkey, 1984, 1985). Therefore it is clear that a set of principles applies to the development of interaction from the level of contact of a mother-infant type in the case of children with the most severe degrees of difficulty, through the facilitating, enabling types of interaction at the stages of preverbal play and the onset of first speech, and onwards to the rules of feedback which affect the intelligibility of the communication of fluent speakers.

The developmental view By contrast with the three preceding themes, the four-stage, developmental view of communication which was outlined in Chapter Six is not at all complicated, and provides a simple, sound structure across the range of children from those who have the most severe degrees of difficulty to those who have just begun to speak. Despite its simplicity, this structure is in accord with the three preceding themes for it recognises that communication is functional and that it is a product of interaction with other people. The Nakazima framework therefore seems to have the capacity to act as the mainstay of a structure of early communication, to which the other themes may be related.

Recommendation from this section

The structure of communication should be understood in terms of the relationship in Table 11, below.

TABLE 11

Relationship of the four main themes in
the project's structure of communication

Stages	Functions	Processes	Interactions
Stage 1 Children with the most severe difficulties and those who are youngest developmentally. Any vocalisations seem to be produced for the children themselves, not for communication with others	Awareness of surroundings (children with the most severe difficulties) ───── Preverbal equivalents of functions of language such as Halliday's (1975) 'heuristic', 'regulatory', 'personal', etc. (Processes from next column may also be considered as functions)	Awareness of surroundings (children with the most severe difficulties) ───── Perceptions, and activities such as 'relating to objects', showing 'object permanence', 'means-end' behaviour, etc.	Social interactions like those between mothers and infants draw attention to the existence of people
Stage 2 Children learn to manipulate objects and understand relationships. They may shout for attention or pull people to things which they want to show them, but the sounds and gestures have no consistent meaning, and the children do not understand speech			Adults' responses promote more and more advanced forms of play and activity
Stage 3 Understanding of words, and imitation of words and gestures		Understanding of spoken words and other symbols	Adults' responses foster understanding and development of language
Stage 4 Spoken words	Verbal forms of above functions	Vocabulary Connected speech	Feedback and redundant information increase intelligibility of communication

<u>Criterion 3</u> A theory of instruction "should specify the
most effective sequences in which to present the material to
be learned"

   The subject matter of this criterion was discussed in

Chapters Eight to Twelve with reference to the influence of

the objectives approach and behaviour modification on

special education in general and on the teaching of

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communication in particular. There can be no doubt from Bruner's own contributions to the field of learning and communication (see, for example, Bruner, 1975, 1980) that he recognises it as a complex subject. Yet his reference to "effective sequences" in the quotation above may tempt the unwary to rush into using objectives-based programmes which will

> "bring children through a series of highly
> structured steps, each involving small behavioral
> increments, until they reach some predetermined goal
> that may be as specific as naming a single item or
> pluralising a set of nouns, before moving on to the
> sequence of steps leading to the next behavioral
> goal ... Typically, the stimuli used, the teaching
> setting, and the contextual conditions in which
> language is taught are highly restricted and
> controlled ... In addition, what is taught ... bears
> little resemblance to the language of normal social
> discourse. Heavy emphasis is usually placed on
> repeating what has been said, naming objects or
> events, describing pictures, or making highly
> contrived requests"
> (Spradlin and Siegel, 1982, p. 2 and 4).

In spite of this caveat, we must recognise that the thoughtful application of learning theory will make teaching and learning more productive, and teachers and instructors should have access to the relevant knowledge. We have guidance on what the nature of this advice might be from implications which were produced by the discussions in Chapters Eight and Twelve.

Recommendations from this section

1 Staff should recognise the complexity of communication and not rely on simplistic adherence to techniques which have been effective in the teaching of mechanical, rote skills (from Chapter Eight).

2 Techniques of teaching should reflect the spontaneous, functional and interactional nature of communication (Table 9).

3. If specific skills are taught in isolation, pupils should also have the opportunity to practise them in real life (Table 9).

4. Staff who use behavioural techniques should be aware of the sensitive balance between an efficient style of teaching and a powerful form of social control (Chapter Twelve).

5. Staff should be aware of the wide range of ways in which people may teach and learn effectively (Chapter Twelve).

Criterion 4 A theory of instruction should specify "the nature and pacing of rewards and punishments in the process of teaching and learning".

This requirement is difficult to accept uncritically with reference to children who have severe learning difficulties.

It is hard to say what place there is for punishment in an attempt to develop communication. Punishment is an event which weakens behaviour. Early Communicative Skills was concerned with strengthening communication rather than with weakening anything. In addition, many authors (e.g., Neisworth & Smith, 1973) discourage the use of unpleasant consequences such as punishment and negative reinforcement on account of their unpredictable results. Punishment has certainly reduced difficult autistic behaviour in some children (Lovaas et al., 1965), though the ethics of this have been contested (MacMillan, 1973, p. 223). However, the

present study is concerned with promoting new adaptive
behaviour rather than reducing old maladaptive behaviour,
and therefore punishment has little part to play in the
discussion.

There is also the matter of Bruner´s use of the word
"reward". The term "reinforcement" is probably more
appropriate as it overcomes the problem of value judgement
which is implicit in "reward". "Reinforcement", "all events
that strengthen behaviour" (Skinner, 1953, p.65), has no
connotations of passing judgement on whether or not a
behaviour is "good".

These arguments may be splitting hairs. There is no reason
to suppose that Bruner was thinking of children with mental
handicap when he wrote "Towards a Theory of Instruction"
(Bruner, 1966). Therefore it is more worthwhile to look for
another reason for his concern with reward and punishment.
It is certainly clear that Bruner´s use of "reward" is
identical to that of Skinner´s "reinforcement" (Bruner,
1966, p. 50-51, 75). He is therefore talking about
consequences which strengthen learned behaviour and
consequences which weaken it. Bruner also collects both of
these consequences under the label "corrective knowledge"
(Bruner, 1966, p.51).

The problem of a direct translation of this criterion of
Bruner into the area of early communication is that the
level of complexity of learning he discusses cannot be
assumed throughout the range of children who have little or

no spoken language. Bruner describes corrective knowledge as learning by "trial-and-error, means-end testing, trial-and-check, discrepancy, test-operate-test and hypothesis-testing" (Bruner, 1966, p. 51). This description of learning presents difficulties when considering the range of children covered by the study, because children with the most severe degrees of handicap should not be assumed to be learning in such advanced ways. Certainly it may be argued that all types of behaviour and learning have their roots in sensorimotor behaviour (Piaget, 1924; Uzgiris and Hunt, 1975). However, "Towards a Theory of Instruction" makes it clear that Bruner was talking about children who are able to speak and have therefore reached a higher twist of the spiral of learning than those who are still at sensorimotor levels.

Therefore the nature of "corrective knowledge" or "consequences for strengthening and weakening behaviour" will depend on the child's ability to learn. Children with the most profound degrees of difficulty will be able to learn by only the most basic form, called "signal learning" by Gagne. Responses in this type of learning are "general, diffuse (and) involuntary" (Gagne, 1965, p. 35,), such as Fuller obtained using sips of milk as reinforcement in the early experimental work with an eighteen year old "vegetative human organism" (Fuller, 1949). But milk would be unlikely to be an appropriate reinforcement under more sophisticated conditions of learning such as the learning of

concepts and principles. In these cases, reinforcement might take a social form such as approval, attention, acceptance or respect, or it might be more subjective or personal in the form of feeling competent at a task, knowing that others will understand what we say, and so on.

Ultimately, the most important principle governing reinforcement in this study is that it should promote children's ability to use "conventional structures or forms so that understandable communicative messages can be used for a variety of utilitarian, social and cognitive purposes" (Bryen and Joyce, 1985, p. 27). This principle lets us interpret Bruner's fourth criterion on the "nature and pacing" of reinforcement. We are obliged to use reinforcement which should have a conventional or natural form which will respect and promote the spontaneous, functional and natural quality of communication.

Recommendations from this section

1 Staff should use reinforcement to promote learning.
2 The nature of reinforcement should be determined by the child's ability to learn, and by its relevance to the natural settings in which the learning will later be applied.

Response to the recommendations

On the basis of the recommendations in this chapter and of those from the survey of opinions, a draft set of curriculum materials was written for teachers and instructors. These

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materials grew out of the structure of communication described in Table 11, and they were intended to be a means of scrutinising the practical value of this framework for enabling teachers and instructors to find direction in the teaching of communication. The materials were bound as a set of four volumes, containing the three major groups of contents which are described below.

1 Introduction (21 pages)

This section introduced the the draft scheme in general, and the pragmatic theory of communication based on Nakazima's framework in particular. A fifth stage "connected speech", had been added to the original framework to take account of needs expressed by some teachers (in the survey) for materials which were more advanced than the single-word stage, and to acknowledge the fact that the Scottish Education Department's focus in the original remit for the project was on the two-word stage of development. As we shall see in Chapter Fourteen, there are also good theoretical reasons for the creation of the fifth stage.

The introduction summarised the five-stage framework in the form of Table 12, then explained in greater detail the implications of this framework for practice.

TABLE 12

The five stage framework of the draft materials

Number of Stage	Title of Stage	General description of communicative behaviour at this stage
1	Playing with the channels of communication	The child receives experiences but makes few responses to objects or people in his surroundings. Most of his behaviour, even babbling, is produced for himself and not for an audience.
2	Making contact	The child learns how to manipulate objects and people in his surroundings. Eventually, he will shout for attention, or pull people towards things that he wants, but his sounds and gestures have no consistent meaning, and he himself does not understand speech.
3	Imitation and comprehension	The child begins to understand symbols such as words and hand-signs. The ability to imitate advances markedly at this Stage.
4	First words	The child uses conventional words (or signs), or words (or signs) which he himself has invented, to express his ideas.
5	Connected speech	The child puts at least two spoken (or signed) ideas together to make himself more clearly understood.

2 Teaching activities (164 pages)

This section consisted of eight booklets (bound in two volumes) which matched instructional activities to the five stages of the framework. The content of these booklets is listed in Table 13, and their relationship to the five

stages of the framework is detailed in Table 14.

TABLE 13

Content of the draft "Activities" booklets

TITLE	CONTENT
Stimulating relationships	Sets of activities for stimulating the senses of vision, hearing, smell, movement, taste and touch.
Making contact	Activities matched to the six Piagetian schemes of the sensori-motor stage (see Table 10).
Recognition and under-standing of sounds.	Activities for drawing pupils' attention to sounds in the environment (Understanding of words not assumed at this stage).
Imitation	Activities for developing vocal and gestural imitation (based on pilot work carried out for the project by Eadie, 1979).
Controlled presentation	Activities to help pupils to understand specific words.
First words	Activities for eliciting spoken words which the pupils appeared to understand.
Connected speech	Activities for developing first phrases and sentences.
Developing comprehension	Development of vocabulary and concepts.

TABLE 14

Relationship of the five stages to
the contents of the "Activities" booklets

	Lesson Handbook 1	Lesson Handbook 2	Lesson Handbook 3	Lesson Handbook 4	Lesson Handbook 5	Lesson Handbook 6	Lesson Handbook 7	Lesson Handbook 8
Stage 1 Playing	▨	▨						
Stage 2 Making contact		▨	▨	▨				
Stage 3 Imitation & understanding			▨	▨	▨			
Stage 4 First words			▨		▨	▨		▨
Stage 5 Connected speech							▨	▨

The shaded areas of the table indicate the developmental
levels at which the various Lesson Handbooks of the draft
materials were considered to be most appropriate.

3 Guide to systematic teaching (88 pages)

This section consisted of five booklets; one, a set of

observation schedules, was bound in the first volume with

the Introduction, the remaining five were bound in a

separate volume. The contents of these booklets are listed

in Table 15.

TABLE 15

Contents of the manuals on systematic teaching

TITLE	CONTENTS
Observation schedules	Modified forms of the I.P.D.S., B.A.B. and Starting Off scales (see text), and instructions for using them.
Attention, please	Creating good conditions for learning.
Teaching plans	How to set aims and objectives. Chaining, successive approximation and prompting (see Watson, 1973).
Reinforcement	Principles and varieties of reinforcement
Record-keeping	Examples of forms which staff could adapt to suit their own circumstances. Advice on record-keeping.

The first booklet contained adaptations of three observation schedules on communication and early child development: the Infant Psychological Development Scales (I.P.D.S.) (Uzgiris and Hunt, 1975); the first edition of the Behaviour Assessment Battery (B.A.B.) (Kiernan and Jones, 1977); and the scale from "Starting Off" (Kiernan, Jordan and Saunders, 1978). The reason for including these schedules was that they seemed to meet the need for new assessment devices referred to in Recommendation 4 of the survey. Also, two of the scales were quite hard to understand in their original form (the I.P.D.S. and the B.A.B.), and all three were rather difficult for teachers to gain access to as they were published as part of larger textbooks.

The remaining four booklets were concerned with the

objectives approach and behaviour modification. This was an attempt to make a systematic approach to teaching more acceptable to teachers who distrusted, feared or simply ignored it. It was also an attempt to make those who had adopted the approach uncritically think more carefully about what they were doing.

<div align="center">* * *</div>

Fifty sets of these draft materials were produced. More than thirty of them were used in a pilot study which is outlined in Chapter Fourteen, but there was sufficient interest in the project from schools, colleges of education and child guidance centres to ensure that the remainder were dispersed quite rapidly.

CHAPTER FOURTEEN

THE PILOT STUDY

Introduction

The curriculum materials which are described at the end of
Chapter Thirteen were the subject of a pilot study carried
out in the spring and early summer of 1980. This pilot study
took the form of a series of workshop meetings which were
held weekly, as far as possible, in four schools in
Strathclyde Region. There were several reasons for this
study.

The first, and perhaps the principal reason, was to
determine the worth of the conceptual framework for the
structure of communication which was described in Table 11.
Was the five-stage scheme a helpful way of understanding
communication? And did the other themes which were related
to it in Table 11 help teachers and instructors to find
substance and direction for their work with children whose
communication was at a very early developmental level?

The second reason for the pilot study was to understand
better the place of behaviour modification and the
objectives approach in the teaching of communication.
Responses from staff during the survey suggested that many
were floundering in their teaching of communication. For
instance, the interviewers´ notes contain several answers
such as "I talk to them all the time" in response to
questions about how communication was taught. Staff who made
this response seemed to require help to introduce much more

system into their work. Would the objectives approach help them to achieve this, or would it channel them into rigid ways of teaching which might suffocate an interactional approach to communication? Or might there be evidence of circumstances under which one type of teaching was more appropriate than the other?

Then there was the difficult problem of trying to discover a useful method of introducing the new ideas to teachers. The workshop method had been chosen on published and personal experience of its value with parents (Cunningham and Jeffree, 1971) and teachers (Tough, 1977b). But would it be appropriate in this setting and, if so, to what extent? Also concerning the introduction of new ideas, there were questions about the draft written materials. More attention had been paid to amassing appropriate content and committing it to paper than to the style of presentation. At the time of the pilot stage of the study, these materials were intended to be teachers´ materials for participation in a workshop course. It was assumed that course participants would be given guidance on which parts to read in the course of the workshops, rather than that they would read them from beginning to end. But was this assumption failing to credit the participants with the interest to read on their own? And was it the correct assumption about the ways in which the staff would use the manuals?

We shall begin with an outline of the workshops, and then examine each of the three themes above in turn.

Outline of the workshops

The workshops in the pilot study were based on the form of parents´ workshops which had been pioneered at the Hester Adrian Centre, University of Manchester, at the turn of the 1960s and 1970s (Cunningham and Jeffree, 1971). These original workshops for the parents of children with severe and profound learning difficulties consisted of a course of six to ten weekly meetings, with each meeting divided into two parts. The first part of the meeting was the presentation of a topic by a speaker, often invited to the workshop for that meeting only. The second part of the meeting was used to discuss what the speaker had said, to plan work such as observation and teaching which the parents would carry out with their children over the coming week, and to discuss work which had been carried out in the preceding week.

The E.C.S. pilot workshops were intended to be very similar in form to the workshops for parents. Tables 16 and 17 are based on timetables distributed to members at the meeting of the project´s steering committee on 4 March 1980. They show that, as with the Hester Adrian workshops, those for E.C.S. were expected to run for eight to ten weeks, that there would be a tutor-led weekly meeting of the school staff to discuss progress, and that tasks would be set for the staff to carry out during the week. In fact the workshops unexpectedly ran for longer than ten weeks: the actual duration of contact has been added to Table 16, and

is referred to later in the chapter.

TABLE 16
Summary of school visits for pilot study

School	Date of first workshop	Usual day for work-shop	Expected duration of workshop	Actual duration of workshop
A	29.2.80	Monday	8 - 10 weeks	12 weeks
B	11.3.80	Tuesday	8 - 10 weeks	12 weeks
C	28.2.80	Thursday	8 - 10 weeks	14 weeks
D	19.3.80	Wednesday	8 - 10 weeks	12 weeks

(Based on memo to E.C.S. steering committee, 4 March 1980)

TABLE 17
Workshops: proposed allocation of time

Mode	Time required	Tasks
Independent learning	3 hours - 4 hours per week	Private reading Assignments Self-assessment
Group tuition	1/2 hour - 1 hour per week	Presentation of core ideas Discussion of general issues Discussion of work with specific children which was of general interest
Classroom work with tutor	1/2 hour - 1 hour per week	Working through assignments Discussion of specific issues arising in teaching Interpretation of draft materials

(Based on memo to E.C.S. steering committee, 4 March 1980)

There were two principal differences between the timetables of Tables 16 and 17 and those for the Hester Adrian workshops. First, there was no "invited speaker" section at the meetings as the writer, acting as tutor, took responsibility for all presentation of material at the group meetings. The second difference was that staff had

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individual tutorial sessions with the workshop tutor during class-time in the company of their pupils.

The workshops were based in four special schools in Strathclyde Region. The two principal determinants of choice of the schools for the pilot study were that the staff should be willing for a workshop to take place and that the school should have several pupils whose speech was within the range considered by the E.C.S. Project. The minutes of the Project's steering committee for 4 March 1980 show that proximity of the schools to the University of Glasgow was also an important factor, to minimise the cost of travel.

Some schools had become well-known to the Project in its first year. For instance, Ann Woodward, a teacher in a Coatbridge School, had cooperated in useful experimental work for developing two-word speech by the technique of modelling action-object sentences (Woodward, 1979). And Anne Eadie (1979) and Noreen McGlynn (1979), on placement at an East Kilbride School, had produced useful information on imitation of speech and the production of first words, respectively, for their dissertations at the University of Glasgow. In the end it was decided to start afresh with four schools where the project had either minimal previous contact, in the case of one, or none at all in the case of the other three. Moving to this new group of schools made many more pupils available to the project than had been available in the early fieldwork. It also helped to spread awareness of the project and its concern with communication

among a wider group of teachers, instructors, psychologists
and other professionals.

Two of the schools (A and B, below) would be considered
typical schools for children with severe learning
difficulties, for similar schools (and units) may be found
all over Scotland. They are the descendants of the former
junior occupational centres (see Chapter One) which were
established to provide training (and education since 1974)
for pupils in the approximate I.Q. range of 50 - 70. The two
other schools (C and D, below) catered for a slightly
different range of pupils as the following details will
show.

School A provides education for children with severe
learning difficulties in the south-west of Glasgow. At the
time of the pilot study the pupils were in the age-band of 5
to 16+ years, and had a wide range of learning and
behavioural difficulties. The pupils were grouped in classes
according to their ages as far as possible, though this was
not an absolute rule as the severity of the learning or
behavioural difficulties of individual pupils might have
resulted in them being placed among a group of pupils who
were younger than themselves.

The school was staffed by an instructor-in-charge, a
teacher and five instructors. Each instructor (other than
the head of school) had responsibility for a group of
approximately ten pupils. The teacher did not have
responsibility for a class but withdrew children from their

classes for individual tuition. Neither the head nor the
teacher was happy with this arrangement, but both said that
that they had been told by the Scottish Education Department
and the local education authority that this was how they
should use the teacher's time.

There were children who had not advanced beyond the
two-word stage in four out of the five classes in School A.

School B is in Renfrewshire and was custom-built in the
1970s for children with severe learning difficulties. The
pupils were similar to those in School A, though those in
School B advanced through the school in class-groupings
which were determined by their ages and not by any
difficulties of learning or behaviour.

The school was directed by a headteacher. A teacher or
instructor was in charge of each class of approximately ten
children, though auxiliary members of staff were also
available for team teaching. Most of the children at or
below the two-word stage were in the three classes of
youngest pupils, and the teacher and two instructors in
charge of these classes took part in the pilot study.

School C is within walking distance of the University of
Glasgow. The majority of its pupils were of normal
intellectual ability, though all were classified as
partially-sighted or blind. Within the school there was a
small unit for up to twelve pupils with severe learning (and
often behavioural) difficulties. This unit had a reputation
locally for being able and willing to accept and help

children who had been very difficult to cope with in their previous schools. At the time of the Project the pupils were in the age range 5 to 12 years. All had a visual handicap, which ranged in degree from partial sight to near-total loss of vision. All of the pupils could understand some language, but several had little or no speech. Three were affected by varieties of psychotic disorder; two of these did not speak, and the third spoke in stereotyped self-directed commands which appeared to have no value as communication with other people. Three other children had advanced to the stage of connected speech, but this was echolalic; their spontaneous speech was sparse and of single-word length only.

The unit was staffed by one teacher (the school's assistant headteacher) and five care-attendants, three of whom had no professional training of any sort, and two of whom were qualified nursery nurses. Towards the end of the pilot study a second teacher joined the staff of the school. In passing, it is worth remarking that one of the untrained care-attendants proved to have some of the most sensitive understanding of the nature and teaching of communication encountered in the course of the Project.

The assistant headteacher (in charge of the unit) had made contact with the E.C.S. Project on her own initiative in the autumn of 1979 for she believed that the Project might provide her staff with some in-service training and that the school might provide the Project with some children who had interesting difficulties of communication. The pilot study

provided an opportunity to take up this offer.

School D is situated in a subnormality hospital for children in Dunbartonshire. At the time of the pilot study, the pupils were in the age range 5 to 18 years and were resident in the hospital. The school had approximately thirty pupils, a dozen of whom had not passed the two-word stage. Some of the pupils had very profound difficulties, and were bed- or wheelchair- bound. Of these, two or three were at or below the second month of life on developmental charts and often appeared to be asleep.

The school was directed by a headteacher. The staff consisted of teachers and care-attendants, several of whom were employed part-time. Full use was made of all available staff in the school so that, when necessary, it was possible to have one-to-one contact with the younger and the most severely handicapped pupils. Even with the older pupils the ratio was never seen to exceed one adult to six children. There was no demarcation of labour among the members of staff who took part in the pilot study, although one of the part-time teachers began gradually to assume the role of organising the structure of the day for the youngest children.

These, then were the schools in which the workshops of the pilot study took place. We shall now consider how the workshops helped to illuminate the three areas of enquiry which were identified in the introduction to this chapter.

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Three areas of enquiry .

The conceptual framework

The five-stage framework based on the work of Nakazima had a superficial clarity which was not so apparent in practice. It is not surprising that the framework did not fit the needs of the staff on the workshops exactly. Nakazima was concerned with describing children's development of vocal sounds. In this study his analysis was being used as a basis of a curricular framework. There was no reason to expect that an easy translation from phonology to curriculum should occur.

The five stages seemed simple enough to understand at first, but staff in the schools soon found difficulty with them. Early in the series of workshops, the staff were given a set of pen-portraits of children who (to the writer) were typical examples of children at each of the five stages. The staff were asked to rate each of the portraits, which appear in Appendix B, in terms of the version of the framework which appeared in the draft manuals. It was immediately apparent that this task was not easy. The framework was useful for stimulating group discussion among staff who were unused to school-based training and to taking an active part in their own professional development. But it was not foolproof in helping the staff to focus quickly and easily on a specific level of communicative development. Debating the finer points of the limits of Nakazima's stages obscured the aim of the exercise - to introduce the staff to a simple

framework for understanding the development of communication. Debating the finer (and often unintended) nuances of meaning within the wording of the pen-portraits made matters worse. Several people became preoccupied with making sure that they were assigning children to exactly the correct stage of the framework. The purpose of the exercise was defeated. The framework had not been devised as a new orthodoxy which would replace existing charts, but as a quick-focusing device which would bring staff more quickly to the act of teaching. Therefore a new, short, simple and straightforward assessment scheme was required.

Another problem was created by the low "ceiling" of the Nakazima framework. This ceiling was the production of a child's first words. This was a satisfactory upper mark for Nakazima's own purposes - to chart the increasing complexity of a young child's vocal sounds. But there were two reasons for this being too low a limit for the E.C.S. Project. First, the remit of the project was to produce a scheme which led up to the development of two-word speech. The remit itself recognised a distinction between one-word and two-word speech which is not recognised (for it was not necessary to do so) by Nakazima. The second reason was that the staff on the workshops kept asking for information about how to develop communication at levels beyond the appearance of first words, and indeed at levels beyond first sentences also. They recognised a continuity of functioning in communication, and felt that the Project should respond to

this by suggesting work for children who had begun to produce language spontaneously. The general opinion on the five-stage framework was that it did help staff to identify children's level of communication required, but that it needed some revision so that it might be understood more easily.

As a first step in resolving this problem it was decided to examine the way in which staff themselves construed the communicative ability of their pupils. It had been noted that teachers and instructors made many statements about children's communication during the school-based workshops. A number of these statements seemed to be useful descriptors for matching children to developmental stages. A small investigation was therefore carried out to discover if there were any conceptual groupings among these statements. If so, the staff's own perception of communication might thus provide guidance for producing a clearer framework.

Staff taking part in the workshops were asked to rate children they knew well on a five point scale of thirty-six items. These items were based on the statements about communicative development that had been noted in the workshop sessions. They were presented to staff as the questionnaire in Appendix C. Seventeen staff took part in the exercise, and returned data on a total of twenty-eight children.

The data were submitted to principal components analysis using S.P.S.S. (Nie et al., 1981), with varimax rotation.

Two principal factors emerged, accounting for 71% of the variance. Table 18 lists the items with the three highest and three lowest scores on Factor 1.

On the basis of these results it is suggested that the factor is related to the understanding (or non-understanding) of language and that this was the most important feature in judging children´s ability to communicate as far as this sample of staff was concerned.

TABLE 18

The three highest and lowest items on Factor 1
of the principal components analysis.

Position		Scale item
High	1	16 Understands a few adjectives (e.g., "big", "hot", "wet", "dirty").
	2	30 Seems to recognise the names of a few objects.
	3	23 Understands the simplest commands (e.g., "stop it", "sit", "come here", etc.) especially if they are accompanied by gestures.
	.	
	.	
Low	34	4 Most severely mentally handicapped.
	35	10 Does not understand words
	36	19 Seems unaware of his/her surroundings.

Factor 2 is less clear. There is some accord among the three highest items of the Table 19 because two of them are connected with spoken, connected language.

TABLE 19

The three highest and lowest items on Factor 2
of the principal components analysis.

Position		Scale item
High	1	32 Gives himself/herself directions that other people have given him/her.
	2	22 It seems as if nothing can be done for him/her.
	3	27 "Echoes" sentences (or large sections of sentences) spoken by other people, but speaks few (if any) of his/her own.
	.	
	.	
Low	34	33 Keeps amused if left on his/her own
	35	14 Turns towards unexpected sounds.
	36	34 Sets toys in motion.

The fourth-highest item ("Speaks lists of words that do not sound quite like sentences, e.g., "man, dog, boy"") confirms this pattern. But item 22 ("It seems as it nothing can be done for him/her") is out of place. It would seem more at home at the low end of Factor 1 in the opinion of this writer, for it would be an appropriate description of many children with the most profound difficulties. Yet, sufficient members of the sample apparently felt that the characteristic could be used to describe some of their pupils who were able to talk. One possible explanation is that the wording was ambiguous, and another is that the result is a statistical artefact resulting from a small size of sample. Whatever may be the reason, the anomaly is not too troublesome: this was an exercise in eliciting the constructs people used to make sense of communication rather

than an exercise in test design. The three items at the low end of Factor 2 are more consistent. They could be described as non-vocal actions, and therefore this factor may be concerned with the production (or non-production) of spoken language.

The experiment suggests that staff think that a child's ability to understand language is the most significant element when they consider his or her ability to communicate. The ability to speak is not part of this continuum, though it may be a second major factor in its own right.

Implications for the development of the framework

It seemed that a couple of very simple questions based on the factors of understanding speech and vocalising might be useful in helping staff to identify quickly the levels at which their pupils were functioning.

The first, and key, question is "Does the child understand speech?" If the answer is no, then the child is functioning at Stage 1 or Stage 2 of the five-stage framework. The differentiation of children at Stage 1 from those at Stage 2 will be dealt with in Chapter Fifteen.

If the child does understand speech, then he or she is functioning at Stages 3, 4 or 5 of the framework. The second question may now be asked: "Does the child speak (or sign) words?". If the answer is no, then the child is functioning at Stage 3. If the answer is yes, the child is functioning at Nakazima's Stage 4. A further question, "Does the child

use connected speech", lets staff assign children to Stage 5. It has been noted above that staff wanted to make this distinction. They recognised a qualitative difference between work which was appropriate for children at the single-word stage and work for children beyond it.

A simple guide to matching children to stages thus emerged from the statistical analysis. It forms the basis of the revision of the original conceptual framework, as will be seen in Chapter Fifteen.

The objectives approach and behaviour modification

The survey had shown some suspicion and concern about the objectives approach. In addition, it was felt that staff in the project schools might feel threatened by the novelty of school-based in-service training. Consequently, it was decided that their introduction to objectives and behaviour modification should be as threat-free as possible. The first few meetings of the workshop (five meetings in the case of Schools A and C, and three for Schools B and D) had suggested that the staff were happy to tackle problems in the teaching of communication without first having a course on the skills of teaching. The value of both behaviour modification and the objectives approach had been demonstrated in fieldwork before the pilot study by Woodward (1979) and McGlynn (1979). However, the use of these techniques had been dictated by the difficulties of specific children rather than by a decision to discover problems to

which they might be applied. The same rationale prevailed in the pilot study. Having assigned pupils to one of the five stages, staff would ask questions about what sorts of activities would be most suitable, and what sorts of techniques could be used to overcome specific problems such as echolalia and severe reluctance to speak. The technology of effective teaching was thus introduced gradually and in response to the teachers' and instructors' statement of their own needs.

A significant, formative event took place after the first few meetings of the workshops, five in the case of Schools A and C and three in the case of Schools B and D. On 15 April 1980 the writer attended a one-day conference in Huddersfield which marked the formal end of Project T.A.S.S. (Training and the Severely Subnormal). The T.A.S.S. research team clearly had an excellent understanding of psycholinguistics at and beyond the two-word stage, the focus of their project. However, speaker after speaker drew attention to the importance of teaching techniques, and illustrated this in the context of school-based in-service courses on teaching techniques which the Project had organised in the County of Avon (Jones, 1980). It therefore seemed attractive to attempt to organise a similar type of course within the E.C.S. pilot study. Teachers and instructors would thus be guided through a fixed-term course of perhaps six weeks, covering a range of topics on the objectives and behaviour modification approach. The source

material for this type of course existed already in the "techniques of teaching" booklets of the draft materials. It simply had to be extracted and presented in a more assimilable form. And so the first unit of this new course was made ready for the workshops which took place in the week after the T.A.S.S. conference. The topic of this unit was "stating a clear objective". The content of the unit was discussed at the group meetings of the workshops and a small piece of "homework" - "Write an objective for a child with whom you are working" - was set for the following week's meeting.

The outcome was one of the most illuminating episodes in the life of the project. The first school to be visited was School C, the school which had been known to the Project before the start of the pilot study. The staff there had not just completed their small piece of homework. Each of them had also written out an entire programme for a child based on the objective they had chosen. In short, they had telescoped the intended six weeks of instruction into a single week. Every detail was there: what sort of reinforcement they would use, when and where they would carry out their teaching, and how they would would use techniques such as chaining and successive approximation. It seemed that the the staff had picked up the rhetoric of objectives and behaviour modification without any direct instruction, probably as a result of the extent of their contact with the Project. Certainly, they had fallen into

the habit of making jokes in behavioural jargon; for example if one care-attendant bumped into another accidentally she would say that this was a "physical prompt".

The response of the three other schools could not have been more different. Without exception, their meetings had to be cancelled that week because the members of staff had come across unexpected duties which had to be attended to urgently. There was no cause to believe that this was an untruthful explanation as the unexpected duties seemed genuine enough. But the fact remained that the group meetings had to be called off that particular week owing to lack of available staff. Discussion at subsequent meetings indicated that the staff were very apprehensive about the proposed new course. Three reasons are suggested for this.

> The staff needed a longer period of preparation and adjustment before they were ready for a course on objectives and behaviour modification.

> The staff were rejecting an approach which focused on the techniques of teaching first and foremost. A reaction against this approach had been detected in the survey and on visits to various schools, on the grounds that staff had tried it and found that it was not particularly effective, that it was impersonal and put the relationship between pupil and teacher in jeopardy, and that it required staff to learn a strange jargon.

> Staff thought that what they were doing in the existing workshops and follow-up work in class was "real work". The move to a course on objectives was an unwelcome diversion which did not appear to offer them any substantive benefits.

Implications for teaching about objectives and behaviour modification

The principal lesson which emerged from attempting to introduce the staff to the objectives approach and behaviour modification is that it does not make good sense to dictate how and what staff will learn. The workshop meetings which had preceded the Project T.A.S.S. conference had deliberately encouraged the staff to become enquiring in their attitude to curriculum development. The characteristics of a successful enquirer include

> "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; and the concern to question and to test theory in practice by the use of those skills:" (Stenhouse, 1975, p. 144)

and a willingness

> "to revise their attitudes and try out new methods, evaluating them against their own experience, and adapting or rejecting them as they see fit"; being "open-minded, willing to consider their aims, to make decisions on the best means of achieving them" (McKee and Dunn, 1978, p. 67).

The staff participating in the pilot workshops had been encouraged to use the human and material resources of the Project to understand their own pupils better. Up until the Project T.A.S.S. conference they had been able to select the information which was most useful to them from a "menu" of ideas. After the conference, it appeared that they were to be straitjacketed into a very restricted range of options, and this did not please them. The immediate implication for the pilot study was that it reverted to the previous, menu

style of working.

There are implications for teaching the objectives and behaviour modification approach too. There is no doubt that the approach may help people to teach more effectively, so how should it be taught? Two suggestions may be made.

The first suggestion is beyond the concern of this study. It is to recognise that there are times when it is appropriate to provide courses in which teachers may acquire new, specific skills and knowledge. Assumptions about the nature of participation in such a course will be different from those about participation in an enquiry-oriented course as the next section of the chapter will show. Courses of the first type already exist. The E.D.Y. (Education of the Developmentally Young) course (Foxen and McBrien, 1981) is an example of an objectives and behaviour modification course across a range of subjects for pupils with severe learning difficulties, and Project T.A.S.S. (Robson, 1980) provides this type of training in the specific area of communication at and above the two-word stage.

The second suggestion concerns providing information about objectives and behaviour modification in the immediate context of the E.C.S. Project itself. It was to incorporate the information within the menu so that staff would have easy access to it in their daily teaching. This topic is considered again in Chapter Sixteen which deals with the writing of a revision of the Project's materials.

Introducing the workshops and the written materials

To help create a climate which would be receptive to

innovation in the workshop schools, the pilot study began in a low key. The meeting on the first week was an "ice-breaking", introductory session in all of the schools except School C where the staff knew the writer already. This meeting was used for introductions to the staff and the children with whom they were working, and to explain what the E.C.S. Project aimed to achieve. They were told that the Project was intended to produce material which would help teachers and instructors come to terms with the teaching of early communication. They were also told that the workshops would be used to assess the value of the ideas which had already been committed to print in the draft manuals.

The first proper <u>group-meeting</u> of the workshops was used to introduce the five-stage framework of communication round which the draft materials had been constructed. The main points were explained, then the participants were invited to talk about their own pupils who had little or no speech, and to rate them in terms of the five stages. Finally, the participants were issued with the "pen-portraits" sheets which were mentioned earlier in this chapter, and were asked, in their free time, to rate the five imaginary children. The staff were so interested in this exercise that most of the following week´s group meeting was spent discussing the pen-portraits instead of the intended topic which had been planned. This was not a serious problem as there was no difficulty about extending the length of the

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workshops beyond the eight to ten weeks of the original plan. In fact, judging by the opinions of the Project T.A.S.S. team, a gentle introduction to new ideas, such as the five-stage framework and the concept of school-based in-service training, is essential if staff development is to occur (Robson, 1980).

It is also important to recognise that as early as the second week of the pilot study, the staff were beginning to dictate the form and content of the workshops. They were not the recipients of a predetermined course of training. They had started to become participants in their own professional development, within a context which had been defined by the content of the draft manuals and the level of communicative development of their pupils. This type of professional development has implications for the way in which the participating teachers are perceived. They are not defined in terms of a course designer's criteria of performance before and after participation. Instead, the participants define their own areas of need, and use the resources provided by the organiser of the course to respond to that need in the "menu" fashion which has been referred to earlier. The practical and theoretical implications of this approach to professional development appears in later chapters.

Soon, the discussions at the workshops' group meetings became a review of work with individual children in the light of the ideas in the draft manuals. Often there was

time to discuss only one child in the course of a meeting, though sometimes it was possible to discuss three or four. The staff whose children were not being discussed at any one meeting did not seem to feel left out as, being members of schools with a very small roll of pupils, all of the staff knew all of the children fairly well and were prepared to comment on them.

Another effect of giving the staff considerable control over the content of discussions was that unexpected topics often cropped up. Sometimes these topics were concerned with the theory of communication, as happened when the staff from School B asked for advice on a problem which they had been discussing among themselves in the week between workshops: was there a difference between a "two-word utterance" and a "two-word sentence"? The fact that they had formulated this problem of their own accord indicated that they were ready for an introduction to the complexities of the theories of early syntax, a readiness which was an interesting example of practice being translated into theory. Sometimes staff set themselves very difficult technical problems such as "How can I teach Carol to understand the word "or"?" The care-attendant who posed this problem was ready for an introduction to "Intelligence in Ape and Man" (Premack, 1976) which contains ingenious analyses of "or" and similar concepts in behavioural terms. And finally, staff sometimes wanted to talk about ethical problems. For instance, the staff of School D (the hospital school) spent a group

meeting, late in the series of workshops, discussing the ethics of teaching their pupils to communicate, interact with others and explore. The majority of their pupils (at that time) were likely to transfer to the local, large subnormality hospital at the age of fourteen or sixteen. The type of communication which the staff were trying to foster was aimed at enabling the pupils to communicate as effectively as possible in the outside world. Was it fair to give them a vision of this outside world when life after school might deny them access to it? Should the staff just follow the tide and teach their pupils to be compliant, trouble-free patients and thus secure as pleasant a life as is possible in a long-stay hospital, if we believe Ryan and Thomas (1980)?

The individual, classroom-based tutorial sessions were a complement to the group meetings and do not require an extended description here. They were used to discuss aspects of detail in the draft manuals in relation to the communication of specific children. They also proved to be valuable for refining some ideas in the manuals and for generating new ideas. Members of staff had often devised different solutions to teaching problems from those in the draft manuals, and these were noted for possible inclusion in a future revision. Sometimes, having two adults working with a child helped the emergence of solutions which might not have appeared if there had been only one. Having two adults also allowed one to watch the other teach and thus

detect aspects of the interaction which might be modified to promote better communication. Feedback on teachers' performance had been obtained in the E.D.Y. and T.A.S.S. Projects by use of videotape. Staff in the E.C.S. workshops said that they were not keen on this approach (as did the teachers on Project T.A.S.S. initially (Robson, 1980)), and that they would prefer to be observed by someone they knew. They did indeed show little or no apprehension about being watched in practice, but perhaps this was because they also had the opportunity to watch and criticise the tutor in action.

Finally, the individual sessions provided the opportunity of seeing changes in the children. Sometimes changes would be apparently minor, as in the case of a child with profound learning difficulties showing more frequent exploratory behaviour. At other times the change could be dramatic, as on the morning when an Indian girl who was being given comprehension exercises appropriate to Stages 3 and 4 of the framework excelled herself by spontaneously producing her first two-word sentence - in Gujurati.

Implications for the introduction of new ideas

We have seen that the ideas derived from the theoretical framework of Table 11 were presented to staff in two forms: in a permanent form through the draft manuals and in an interactional form through the discussions and tutorial sessions on the workshops.

The short summary of the reactions of staff to the draft

manuals was that they should be re-written. They had three reasons for this opinion.

1 The staff found the conversational style of writing in the manuals difficult to follow. They did not want or need narrative text, and felt that a more controlled, terse form of writing would give them easier access to ideas. A selection of pages from the first set of manuals appears in Appendix E.

2 Staff found it difficult to pinpoint quickly the areas in the draft manuals which contained the information which they wanted. Having the ideas in four separate manuals instead of one only was irritating. There was also a problem of indexing and cross-referencing rather than one of writing style. The chart which appeared in the first draft manual (Table 14 in this study) was not helpful as a guide.

3 The staff did not find the separate sections on the objectives and behaviour-modification approach very helpful. It seemed that those who were interested in objectives and behaviour modification would undertake E.D.Y. training, and that those who were not interested would not have their attitude changed by reading another manual on the topic. At best, they would use the approach if they encountered a problem to which they saw it providing an answer.

No member of staff was interested in using the B.A.B., I.P.D.S. or "Starting Off" developmental scales which had

been incorporated in the teaching manuals. However, the
P.I.P. Development Charts (Jeffree and McConkey, 1976a)
had also been distributed at the workshops, and some staff
were sufficiently impressed by them to requisition them
for use in school.

Finally, some members of staff had devised their own
charts for recording pupils' progress. These were noted
for possible inclusion in a revision of the project
materials.

4 Staff wanted more help in dealing with specific problems
such as poor attentiveness, echolalia and behaviour of the
autistic sort, all of which created difficulties when
teaching.

One salutory lesson from this review of the workshops is
that an important function of the tutor's contact with staff
in the group and individual meetings was to decode the draft
manuals for the staff, and to provide new information for
them. Perhaps, therefore, a better-written set of materials
would allow a tutor to spend time on the type of tutorial
work which is described in the remainder of this chapter
rather than on translation of a curriculum handbook. The
re-writing of the project's materials was a major exercise
and is described more fully in Chapter Sixteen.

The reaction of staff to workshops as a medium of training
was positive, judging by the fact that a course which was
intended to last eight to ten weeks was extended to between
twelve and fourteen weeks (Table 16) at the suggestion of

the staff. School-based curriculum development was a novel experience to all of the staff, who, at the outset of the workshops, had expected to undertake a set course of instructional sessions. Yet within a few short weeks they were engaged in activities which seem very like Skilbeck's description of "action research":

> "the construction of action programmes to solve problems or meet defined practical needs, their careful observation, analysis and evaluation, and the use of insights and experiences thereby gained for constructing theories and building up knowledge including experiential knowledge and practical skills for future use"
> (Skilbeck, 1984, p. 100).

This attitude may partly be nurtured in the teaching of early communication by providing useful curriculum materials, but it also offers a considerable professional challenge to tutors when the workshop method of effecting change is used. The tutor requires to exercise responsibilities and skills in getting discussion going, such as those which were identified for teachers, acting as "neutral chairmen", in the Humanities Project (see Aston, 1980, p. 143). But in an area such as early communication, the tutor should also have specialised knowledge and skills, or should have access to sources of information on the knowledge and skills. The most likely educationists who might act as tutors are educational psychologists and those staff tutors and college of education lecturers who specialise in the education of children with severe and profound learning difficulties. None of these people may be expected to have all of the knowledge by right or training,

but the characteristics of their jobs allow them opportunities to gain access to this information more easily than teachers who are based in schools.

This does not escape the problem of providing good source material for use in workshops or by individual teachers and instructors. An easily-accessed information bank, such as has been referred to in previous chapters, would be an invaluable source for tutors and school-based staff alike but, to date, no satisfactory bank of data exists either in print or electronic storage. The other resource is a sound set of source materials written specifically for the area of curriculum which is under study, and this issue is responded to in Chapter Sixteen.

CHAPTER FIFTEEN

THE REVISED FRAMEWORK

Introduction

The basis of a new five-stage framework began to emerge in
Chapter Fourteen. This was partly the result of the factor
analytic study and mainly the result of seeing the teachers
and instructors becoming bogged down in a framework which
was too complicated. This chapter is in three sections.
First, it moves through each of the five stages of the
framework in turn. Second, it shows how this framework may
help teachers to select learning activities which are
appropriate to the developmental level of their pupils.
Finally, the chapter shows how choosing an appropriate
teaching approach may also be understood in terms of the
revised framework.

Eventually, the framework generated a set of curriculum
materials which are referred to in several parts of this
chapter. They are described in greater details in Chapter
Sixteen, and appear in full in the Manual.

Revision of the Stages

Stage 1

The first stage of the original framework concerned
vocalisations which appeared to have no purpose. This type
of vocalisation would include babbling, certainly, but it
would also include jargon which, though frequently
containing speech-like sounds, cannot usually be associated

with meaning.

In practice, teachers and instructors found it difficult to assign children to this stage. The children who caused perhaps the greatest confusion in fieldwork were withdrawn children who frequently had very good comprehension of language but rarely produced vocal sounds. Now, some staff on the workshops argued that if the children did not produce vocal sounds they should be assigned to Stage 1. But of course the key feature of the communication of these severely withdrawn children was that they could understand language. Therefore they should have been assigned to Stage 3 at least. The literature on autism shows that children who are severely withdrawn may demonstrate considerable cognitive skills in practical activities even though they seem reluctant to interact with other people (see, for example, Bence and Rendle-Short, 1979). The framework did not make this clear. Primarily, the Stage 1 designation was intended to be assigned to children with the most severe degrees of learning difficulty. And of course there is a well-established label in the vocabulary of special education to identify that degree of difficulty - "profound mental handicap". This label has a good claim to be the principal descriptor of the lowest level of ability to communicate. Its meaning can be made even clearer by adding the definition that "the children are so severely handicapped that they often seem to be asleep". The need for this extra clarification arises because some of the children

in our schools who are labelled "profoundly mentally handicapped" are in fact able to walk and talk (Browning, 1983). In general, it is not difficult to discover examples of considerable variation in the practice of educational placement of children with learning difficulties both within and among local authorities throughout Scotland. These policies seem to be even more idiosyncratic when attempts are made to distinguish between children who have severe learning difficulties and those who have profound difficulties.

Reserving Stage 1 for children who have profound learning difficulties - who are so severely handicapped that they appear to spend a large part of their lives asleep - makes assignment of children to this stage an easier matter for practising teachers and instructors. The children are often bedbound or wheelchair-bound. They are extremely unresponsive to stimuli. They show little or no awareness of their surroundings. Even the most elementary components of conventional nursery education are beyond them for they are still functioning at the level of children who are early in the first year of life (Browning, 1983).

Clarity of identity is a practical advantage of changing the range of children covered by this range of communicative development. A clarification of theory also emerges from the change. Children with a profound mental handicap are a distinct group in terms of the pragmatic view of communication. Stage 1 children do not attempt to interact

with their surroundings and the people in them. This is the function, or perhaps the non-function, of their communication. This clarification of a pragmatic stage points the way to the beginnings of a curriculum. It allows teachers and instructors to see educational aims for their interaction or communication with the children. Communication cannot take place if children are not aware of their surroundings. Therefore the aim of communication at Stage 1 is that the children should become aware of the environment so that they may begin responding to it.

In summary, the chief difference between Stage 1 in the original and the revised frameworks is that it deals with a narrower range of pupils in the revised framework. The types of vocal activity which Nakazima described in his first stage are associated with the behaviour of children whose developmental level is higher than that of those children who have the most profound learning difficulties and who show little responsiveness to their surroundings and little awareness of them.

Restricting Stage 1 to children with the most profound difficulties means that those who do show interest, responsiveness and exploratory behaviour may be moved into Stage 2 where there is a well-marked continuum of development through to the understanding of words, which marks Stage 3. The identity of the new Stage 1 also helps in the selection of instructional activities. Children at this stage should become more aware of their environment, and if

that awareness is unlikely to emerge as a result of the children´s lack of responsiveness, the task for their teachers is to encourage its development by means of sensory stimulation. Sensory stimulation had a well-established place in the junior occupational and day centres, thanks in large part to the work of Mildred Stevens (e.g., 1976) who pioneered work with mentally-handicapped children and their parents in the Manchester area before the foundation of the Hester Adrian Centre. But observations and interviews during the survey reported in Chapter Seven indicated that simple sensory stimulation was being given to children who were at developmental levels where this was unnecessary. Thus, the creation of the new Stage 1 not only helps to define a group of pupils more easily, it also assigns sensory stimulation to a defensible place in the curriculum.

Stage 2

Nakazima´s second stage covered all acts of communication which could be identified clearly with some sense of purpose but which had no consistent meaning attached to them.

For example, young children may call out or use their arms to attract attention, though the sounds or signs they make are not consistent and thus cannot be associated with any single meaning. The reaction of staff during pilot fieldwork in the schools indicated that this was an idea which teachers and instructors grasped readily because they encountered it in their daily experience. Consequently this

stage required very little revision to clarify it. The idea may probably be a little clearer if the Stage 2 child is described as someone who takes and active interest in his surroundings, though he is not yet able to produce or understand language. This stage is equivalent to the greater part of the Piagetian sensori-motor period of development. Of course, sensori-motor development extends down into Stage 1. But much of the period is concerned with "learning by doing", and this growth of understanding through action and perception rather than through symbols (which occurs at Stage 3) is the characteristic of Stage 2.

The aim for pupils at Stage 2 is that their range of actions, understanding and perception should grow so that they may develop the functions, or schemes of activity, perception and thinking which were discussed in Chapters Four and Thirteen. Uzgiris and Hunt (1975; Table 10, this study) have helped to clarify the nature of the schemes dealing with action and thinking, and they translate very well into instructional activities, as the Stage 2 sections of the Manual show. However, it would be equally appropriate for teachers and instructors to experiment with teaching activities based on other analyses of the functions of the preverbal stages of verbal functions, such as those which have been described by Barrett (1980), Dore (1975), Dale (1980) and Halliday (1975).

Stage 3

Nakazima´s criteria for placement at his third stage need
no revision as they are already expressed in functional,
pragmatic terms which provide a useful growth point for a
curriculum.

For him the characteristic markers of this stage are
evidence of understanding language, and imitating the
language of others. The second of these markers is a very
dramatic intimation of growth in the child´s ability to
communicate even when no meaning can honestly be attached to
the words that have been imitated. Imitation may have little
value as genuine communication as it is a common feature of
autistic difficulties (Fraser and Grieve, 1981), and is not
particularly good as a predictor of later ability to
communicate (Snyder, 1975). This has not prevented it from
becoming a dominant feature of many schemes for teaching
communication (e.g., Kent, 1974; Williams, 1980). Yet it is
certainly an ability which is associated with a specific
period of a child´s development. It is also a milestone
which is very easy to recognise. For these reasons it may be
a helpful pointer in the direction of an appropriate choice
of teaching activities for children.

Imitation is easily recognised but the most important
feature of the third stage is not imitation but the ability
to understand language. We have seen in Chapter Fifteen how
"Does the child understand language?" could become the key
question in an algorithm for enabling teachers to assess a

child´s communicative level on the E.C.S. scheme, and thus be guided to an appropriate choice of educational activities. If children cannot understand words (or other symbols) then teachers and instructors should be looking for activities which are suitable for children at Stages 1 and 2. But if the children do show some understanding of symbols, then appropriate work will be found in teaching materials for Stages 3, 4 or 5.

Stage 4

No change is needed to the fourth stage of the original framework. This is the stage at which the child´s first words appear. Parents and teachers have little difficulty in stating whether or not children have attained this stage. The children´s words may be conventional (adult) words, or they may be a distortion of conventional words, or they may be words that the children themselves have invented. So long as they may be matched consistently with specific ideas such as objects, people, actions, feelings, positions and so on, they are entitled to be called "words".

There may be some doubt about assigning children to this stage if they use words without any obvious intention of communicating with other people. This can happen with children described as "autistic". There are also problems when children with very good understanding of language show no signs of producing language of their own. Children such as these are in a minority, fortunately, though the new

framework may still be helpful in meeting their needs (see Manual, p. 15, 17 and 267).

Stage 5

There were only four stages in Nakazima´s framework. We have noted in Chapter Thirteen that it was necessary to create a fifth stage to take account of those children who produce early connected speech.

The original remit of the Early Communicative Skills Project was to produce a teaching scheme for encouraging children to move from the stage of single-word speech to two-word sentences. The Survey had shown that teachers and instructors were concerned about teaching communication at levels which were much earlier developmentally than the appearance of speech. Yet they also asked frequently for advice on fostering connected speech in more advanced children. The project´s remit had identified an area of genuine concern, even though it was part of a much wider concern about the teaching of communication.

There is another reason for creating a fifth stage. It is that connected language is different qualitatively from single-word language. This conclusion can be reached from two opposing viewpoints in psycholinguistics. The differences seem hairsplitting from the standpoint of teaching. Yet they are worth summarising for the sake of emphasising the developmental advance which two-word language indicates. One faction states that the appearance

of two-word language represents an advance in children´s
ability to think. The other states that two-word language is
just an advance in the production of sounds, thanks to
experience and practice.

Lois Bloom made the case for the first point of view. She
stated (Bloom, 1973) that two-word language shows that
children realise ...

... that words can be linked

... that two (or more) ideas are related

... how the relationship may be expressed in words.
Children have recognised a relationship, and they know how
to express that relationship in symbols.

The other point of view is that children link ideas before
they link words. They are able to link words when they have
overcome constraints such as inefficient immediate memory
and processing of ideas. This view is particularly
associated with the work of Greenfield and Smith (1976).

There has been considerable debate between the two camps,
with Bloom´s approach probably faring rather better. For
instance, Tager-Flusberg (1985) concludes in a recent review
that by using connected speech, children recognise that

> "the order of words expresses the basic
> relationships in a sentence. They appear to have
> extracted this fundamental rule on a
> sentence-by-sentence basis and limit their
> application of the rule to lexical items (i.e.,
> specific words they know (writer´s explanation))
> rather than broad linguistic categories" (p. 149).

However, the reference to skill which develops on a
sentence-by-sentence basis, and to children restricting

their use of this skill to specific words only at first,
seems to acknowledge the belief of Greenfield and Smith that
immediate memory and the ability to process ideas are also
important determinants of connected speech.

Bowerman (1978) wisely concluded that "much future debate
on the topic can be anticipated" (p. 140). All that matters
in this study is that the linguistic skill of connecting
words (or nonverbal units of language) is an indicator of
advanced development, whether it be development of concepts
or development of the ability to process information.
Two-word language shows that children are functioning at a
more advanced level than they were when they used single
words. This development requires recognition in the form of
a stage for itself. Therefore Stage 5 - connected language -
was created. All stages in the new framework are summarised
in Table 20, below.

TABLE 20

The five stages of the revised framework of communication

Stage	Description of children
1	The children have profound mental handicap. They may appear to be asleep for much of the time.
2	The children begin to take an active interest in their surroundings.
3	The children begin to understand words and gestures. They become able to imitate sounds and actions.
4	The children produce their own first words.
5	The children produce connected speech.

Advice on teaching content
in the context of the revised framework

The framework is the embodiment of two ideas: communication is purposeful, and communication passes through a sequence of stages of development. This is the essence of the discussion about communication in the study, and therefore is the principle which we want teachers to adopt and implement in their teaching of communication. The circumstances in which the principle is to be applied are very diverse on account of the individual differences among pupils, staff, locations of teaching and so on. Therefore it is difficult to be prescriptive about any specific aspect of teaching other than the underlying principle itself. It may even be desirable to be non-prescriptive, for this avoids the danger of producing teacher-proof packages which are inflexible to the pressure to adapt to individual circumstances of teaching, and which undermine the professional competence of the teacher.

But how are these principles to be translated into action? There will, no doubt, always be a few highly-motivated individuals who will be keen to develop a new idea in practice, given a bare outline - an example of this appears in the next chapter. But it seems sensible to assume that most teachers will require an expression of the ideas

> "in the form of teaching materials and criteria for teaching a view of knowledge and a conception of the process of education. (This) provides a framework in which the teacher can develop new skills and relate them to knowledge and learning" (Stenhouse, 1983, p. 157).

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What type of guidance do they require?

In an earlier volume, Stenhouse outlined three models which might encourage teachers to adopt new practices, and all three have a bearing on this study. The first is the "supermarket" model (Stenhouse, 1975, p. 123) in which teachers are presented with a selection of many examples of new practices in the area of the curriculum which is under development. The teachers´ task is to choose a sample of these experiences in the light of their needs. The second model is that teachers will build up a range of materials and teaching strategies by reference to the set of principles on which an area of curriculum is built (ibid., p. 124). The success of this model depends of course on the principles being clear. The underlying principle in this study is that communication is purposeful and developing. The principle has its embodiment in the framework, but examples of the principles translated into action would still have to be provided. This is the characteristic of the third model of curriculum development. It "suggests principles for the development of curricula in a particular area and provides units of material which serve as examples of these principles in action, but do not ... provide the raw materials of a fully structured curriculum" (ibid., p, 124).

The message which comes from these three models, in turn, is that there should be a choice of materials for teachers; this choice should be grounded on clear principles; and a

sample of experiences which show these principles in action should be provided. Curriculum developers are taking a risk when they suggest examples of their principles translated into practice, but it is a risk they must take to set in motion the processes evolving procedures which are to suit the needs of individual pupils, and which encourage the development of the curriculum and the teachers who deliver it. Stenhouse does not worry if the sample of experiences which is chosen proves to be imperfect as "a curriculum without shortcomings has no prospect of improvement and has therefore been insufficiently ambitious" (Stenhouse, 1975, p. 125). Let us therefore consider the "Early Communicative Skills" stages one by one, and show how they are in accord with Stenhouse´s guidance and how they may help teachers to select appropriate learning experiences for their pupils.

Stage 1

Pupils at Stage 1 in the Early Communicative Skills scheme have such profound disabilities that there are great restrictions on what and how they may learn. One possible source of guidance for selecting learning experiences for these children is Trevarthen´s analysis of mother-child interactions (Hellier, 1983), but the complexity of the procedure is one of its disadvantages at the moment. Instead, the Stage 1 activities which appear in the Manual are based on the assumption that the children will learn by classical conditioning (the pairing of a reflex with a

stimulus which does not evoke it naturally) and by simple operant learning such as was used by Fuller (1949) to increase by reinforcement the mouth movements of a profoundly handicapped person. Gagne has equated classical conditioning with "signal learning" which depends on the production of "a natural reflex, typically a reflexive emotional response (startle, fear, anger, pleasure), on the part of the learner" (Gagne, 1965, p. 65). Pupils at Stage 1 often seem to be passive recipients of stimuli, making no response to their environment or the people in it. Therefore the aim of the Stage 1 activities in the Manual is to provide pupils with as wide a range of opportunities as possible so that the pupils may eventually produce a "natural reflex", or a voluntary, generalised (i.e., nonspecific) response to some stimulus or stimuli, to indicate that they have at least some minimal contact with their surroundings.

The major preparation for the task of providing teachers with teaching activities at this stage of the ability range was to compile a large selection of simple activities which would permit stimulation of sensory channels: visual, auditory, smell, taste, touch and movement. The task of compiling these is not hard as it is possible to draw on long-established traditions in the education of people with severe and profound difficulties. These activities have their origins in the "care and protection" period of special education, though it would be fair to credit Mildred Stevens (1976) with the first clear statement of their significance

as the components of a genuine curriculum for pupils with severe and profound difficulties. There are many publications which school staff may use now as sources of these teaching activities. For ease of access, a selection of activities was compiled, and these form the first section of the "teaching activities" part of the Manual. This selection of activities provides teachers with a wide choice which can be used directly as the basis of a programme of activities for stimulating a wide range of the senses of a pupil with profound difficulties, and should also provide ideas for other activities which teachers may devise or may select from other sources to suit the special needs of their own pupils.

Simple exposure to these activities is probably the most basic education which may be provided for a pupil. However, even if the pupil appears to be unresponsive to them, the teacher does at least have the activities available as a resource on which to base a programme of individual attention which can be provided at intervals during the school day. On the other hand, some of the most severely disabled pupils will occasionally show a signal-learning response (such as smiling) to stimulation; a voluntary act at even that elementary level is worth noticing as it may be capable of being developed into a more deliberate, discriminating form.

Stage 2

It is not uncommon to come across the assertion that language is a feature which distinguishes humans from nonhuman animals (Bronowski, 1976; Liublinskaya, 1957), but it is possible to overstate this distinction. For example, Liublinskaya says that the power to make comparisons only becomes possible with the appearance of language, whereas all intellectual activity is at a perceptual level before that. This seems to do a disservice to the active, preverbal pupils at Stage 2. For example, de Bono (1978) argues that a great deal of higher intellectual activity may also be reduced to perception, a point which is not far removed from Piaget´s and Bruner´s understanding of intellectual development. It is possible to see comparison as an extension of Gagne´s discrimination learning, and that particular skill emerges with the consolidation of the object concept, well before the appearance of language and understanding. As a result, there are grounds for asserting that the level of learning of pupils at the preverbal, but active, Stage 2 of the Early Communicative Skills scheme is quite sophisticated. Certainly, learning by verbal association is not possible by the definition of Stage 2 pupils, but their active interaction with the world enables them to build up considerable understanding of concepts, relationships and principles. For this reason, the activities which were selected for Stage 2 pupils in the revised instructional materials which appear in the Manual

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assume the ability to learn by various means such as stimulus-response, chaining and discrimination learning.

The content of communication is ideas (from the O.E.D. definition). Therefore to teach people to communicate is to teach them to exchange ideas. But they must have ideas before they can exchange them. Beyond the simple signal and operant learning of pupils at Stage 1, the substance of ideas is the perception and understanding of experience, and these relationships are understood by preverbal children by living through them in their actions and their attentiveness. The infant's development of understanding of these relationships, which are the basic content of thinking, has been described extensively by Piaget (e.g., Piaget, 1936, 1937).

But Piaget's amalgam of various processes at any one of his six sensorimotor levels is not easy to conceptualise. For this reason, the Uzgiris and Hunt (1975) reconstruction of the sensorimotor stage, described in Chapter Thirteen, is suggested as a guide to discovering activities for this stage of development. The Uzgiris and Hunt scales have two useful features. First, there is a regular progression of the development of a unified psychological construct (such as object permanence) which crosses the boundaries of the original Piagetian sensorimotor levels without any reference to them. Second, the six conceptual constructs themselves seem to be valid, and the Uzgiris and Hunt approach draws attention directly to them as focal points worthy of

attention. As children progress along the various scales, they move nearer to thinking symbolically, possibly because they now hold so much information. Symbols let information be organised systematically and economically, and thus increase its accessibility and usefulness. The content of the six scales of the Uzgiris and Hunt reconstruction of Piaget's sensorimotor stage were therefore used to guide the selection of six sets of graded activities for pupils at Stage 2 of the E.C.S. scheme.

Uzgiris and Hunt were mainly concerned with the development of communication through looking and acting. But experiences can also be arranged which depend on listening and acting. And of course communication by language is based more on sound than on any other modality. Therefore, it seemed wise to accompany the developmental work on thinking with activities for directing children's attention to varieties of sound, and to their ability to produce sounds vocally and manually. There was a need for a sequence of auditory experiences and activities ranging from the most basic awareness up to the readiness-for-symbols stage. Thus a section of activities was compiled to direct children's attention by sound, and to draw out their response to sounds in an increasingly complex way.

As a result of this interpretation of the kind of communication that was appropriate at Stage 2, the set of ideas for teaching which appear at pp. 77-154 of the Manual was prepared. They consist of activities which can be

associated with the scales of Uzgiris and Hunt and which
staff found useful during the pilot fieldwork of the
project, or which already occurred in other collections of
teaching activities. Their purpose was to give pupils
control over the world at a physical, manipulative and
perceptual level so that they might build concepts about it
which eventually might be expressed more precisely by
understanding and using words.

Stage 3

At Stage 3 the project becomes more manageable in terms of
finding appropriate content for teaching, as children show
signs of understanding language at this stage. Communication
has eventually become the exchange of ideas by language. One
of the signs that children are ready for work at this stage
is that they have already shown some incidental
understanding of language. This means that they are able to
learn by verbal association. It has been said above that
concept and principle learning may be seen in action
preverbally, but their scope becomes greater with the
arrival of language. Therefore, the thrust of teaching at
Stage 3 is directed at strengthening the power of learning
by verbal association. Other styles of learning will
inevitably occur at this stage, but verbal learning gives
the pupils access to a completely new type of experience which
which will ultimately be a powerful mediating force on their
learning.

The aim of teaching at Stage 3 is to build up the stock of ideas pupils can encode so that they will have something to transmit. This is similar, though not identical, to the approach of Gillham (1979) in "The First Words Language Programme". Gillham makes the assumption that if children learn to understand words that have been brought to their attention, they will produce these words in speech. The danger in this assumption is that it is equating the processes of comprehension and production of speech. But this conclusion is not warranted. It fails to take account of the different physiological bases of comprehension and production (Rosenberger, 1978). It also implies that children will be sufficiently motivated by the activities provided by their teachers to produce words that they have shown they can understand.

However, it is not necessary to make the assumption that what is understood will be spoken. The aim of work at Stage 3 is simply to help the child understand that vocal sounds made consistently, designate some referent. There are probably other tasks which lead up to this (for example, gaining the child's attention) but they may be more usefully considered as techniques of teaching. For example, signal learning, such as the reponse of eye-contact to an adult's voice, is still relevant even at this quite advanced level of learning. The problem for the teacher is how to present the referent, and what referent to present.

The policy adopted in the Manual is to assume that the

first words spoken by children who have severe learning
difficulties are much the same as the first words of normal
children. This may not be valid, as it assumes that the
probably greater age and experience of a child with severe
learning difficulties does not affect the communicative
needs of the pupil. McLean´s (1978) review provides some
evidence to support the notion that the language of children
with severe learning difficulties differs from that of
children who are not handicapped, but she concludes that the
argument is difficult to sustain. However, the policy
adopted in the Manual has been justified by Gillham (1979)
and McConkey and Price (1986): target words are selected,
and the children are taught to understand them. The
responsibility for the choice of words to be learned lies
with the staff: they will know better than a remote
prescriber which referents are so significant to an
individual child that there is a good chance of the child
learning to recognise the words which represent these
referents. For example, they will know which words are
likely to be useful to children, to interest them, or to
which they have been exposed frequently.

The taxonomy of words chosen was something of a
compromise. It had to be a fairly accurate reflection of
words which children actually use. But the classification of
these words within a framework might have to be expressed in
the arcane language of psycholinguistics to be
scientifically respectable. In the end, it seemed more

important to set the framework in terms which teachers would understand easily. "Nouns and pronouns", "action words", "qualifiers/modifiers", and "social vocabulary" were eventually chosen. "Nouns" and "pronouns" are easy to understand. Some people may have difficulty in admitting prepositions to the category of action words, perhaps as a result of traditional grammar teaching from their schooldays. "Qualifier", "modifier" and "social vocabulary" seem to present no difficulty, especially when examples are given.

Gillham´s (1979) "first words" approach was an important influence on the writing of this section. Bruner´s "speech act" theory was important also: the words that are learned should have some function, therefore the activities used to teach them should themselves be purposeful. Children working at Stage 3 should be expected to take part in their activities; they are not the passive recipients of a comprehension exercise.

The Stage 2 activities based on the Uzgiris and Hunt scales overlap Stage 3 to some extent as sensorimotor development, and therefore the development of actions, continues after the onset of understanding and speech. Therefore activities of the learning-through-action variety should continue in Stage 3 when the teacher decides that they are useful. The Stage 3 section of the Manual also includes activities in imitation, and others such as music and movement which require a response to near-symbolic

sounds.

There is also a section on make-believe play. Make-believe is a powerful nonverbal method of ikoning or symbolising which has its roots early in Stage 2 (McConkey, 1984). In language, children are dealing with a code and its referents; in make-believe they are living through what they will speak when they use words. Perhaps, then, one important function of Stage 3 is to get the child used to the world of representation, certainly by understanding words and also by making objects represent other objects. This style of thinking can be seen as a habit or a skill, in the same way that connected speech is a habit to be learned as far as some children are concerned.

It can be argued that the correct part of the E.C.S. scheme for placement of the teaching activities in imitation and make-believe is Stage 2. The reason for suggesting this is that the early stages of make-believe are certainly nonverbal (as is the work at Stage 2) (cf. McConkey, 1984), and the imitation of words and sounds is not a sharing of ideas by symbols (as are the activities above the level of Stage 2). However, there are two good reasons for putting both of these sets of activities in the higher category of Stage 3. The first reason was based on principles of child development.

The lowest levels of imitative behaviour on the Uzgiris and Hunt imitation subscale are indistinguishable from quite low levels of functioning on several of their other five

subscales. Thus, to include "imitative" activities for a child at a very young developmental level would mean considerable overlapping with activities which had already been included in other Stage 2 sections of activities. By the time that imitation is a distinct type of behaviour, the child has advanced well through the sensorimotor stage and is probably beginning to show some signs of understanding words - and understanding words is the principal feature of Stage 3. In addition, the placement of representational play in Stage 3 is further justified by developmental norms (e.g., Jeffree and McConkey, 1976a) and Piagetian theory which indicate the coincidence of the appearance of language comprehension and the appearance of representational behaviour.

The second reason for placing imitative and make-believe behaviour activities at Stage 3 is strategic. Observation of the practice of many teachers and instructors during the fieldwork of the project, and the conclusions of the Bryen and Joyce (1985) review of schemes for teaching communication, indicate that the superficial similarity between imitated speech and spontaneous speech has allowed imitation to acquire an unchallenged status in schools, whether or not pupils are developmentally capable of benefiting from it.

Stage 4

The advent of speech at Stage 4 gives children access to a

new range of experiences through which they may learn. There is a special place at this stage for an enabling type of teaching which strengthens the new verbal skills by encouraging the production of voluntary verbal acts of communication (Cheseldine and McConkey, 1979; McConkey and Price, 1986). Types of learning which appeared pre-verbally, such as stimulus-response, are of course still used at this level. However, when that occurs in school it will often be to enable the child to learn a verbal skill which can be generalised to many situations in real life. For instance, a teacher may decide to teach a child to use the word "go" to set a mechanical toy in motion. This could easily be a stimulus-specific activity, but it would be more likely that the teacher would, at the back of her mind, be aiming for the production of "go" in situations where the word had not been taught to the child and, even more generally, for the child to acquire the habit of using words to make things happen.

The aim of Stage 4 is that some of the words that have been taught (and are supposed to be understood) should be produced meaningfully. Another aim would be the fostering of words which had not been taught but which seemed to be good possibilities for being produced. The categories which were useful at Stage 3 (nouns and pronouns, action words, etc.) are still useful here, but with the sounds being made by the children themselves, there is very much greater opportunity for pragmatic language.

The children now have access to one of the most motivating aspects of language; that of controlling the people and the environment by commands and requests. Words can make things happen. Different things happen when different words are used.

The policy adopted as far as possible in the Manual is to bring children to a point at which they produce a word of their own accord. This may be the "missing words" technique, or it could use direct modelling. Modelling need not lead to a sterile repetition of words if it is applied in a setting where the children can see their words make things happen, and it is one useful way of helping children who have become stuck at one stage of development to acquire new habits (such as two-word speech) which will help them move to a more advanced level. One example of modelling being used to produce more advanced forms of language appears in the "Mummy church book" incident reported in Chapter Nineteen. Others occurred in a hospital school where there were so many non-speaking children that the staff used modelling with a few selected pupils whom they felt were inhibited from speaking because speech was something which, in the hospital, was an adult´s behaviour and not a child´s.

Speech becomes a tool for getting things done. Various pragmatic aspects of early speech, including single words, are outlined by Halliday (1975). Using his system of classification as a guide, it is easy to justify Gillham´s selection of first words as pragmatic vocabulary. The target

words suggested in the Stage 3 activities may be used again at Stage 4 to see if they will be produced spontaneously.

Stage 5

The activities of Stage 4 concentrated on helping the child to acquire the habit of speech. Some of the effort at Stage 5 is also directed at habit acquisition, but at this stage the staff are more clearly directed back to the pragmatic path. They are encouraged to ask themselves what words can do for the children. Three major areas are tackled at this level.

The first area is the straightforward production of connected speech. Its absence may even be regarded usefully as a habit to be changed. More positively, it may be regarded as a habit to be acquired. The technique recommended in the Manual is modelling. This technique is illustrated by examples which are pragmatic in nature. For instance, it is suggested that children should have two-word requests and two-word commands modelled for them. In view of reservations expressed elsewhere in this chapter and in Chapter Eight about the importance attached to imitation by some teachers and compilers of teaching schemes, it may seem strange that imitation is being recommended here as a technique of teaching. But there is an important distinction to be made between using imitation (in the form of modelling) for teaching purposes and assuming that words which have been "taught" by imitation must be acquired

before children will produce their first words. In other words, imitation is being put in an educational rather than a developmental context here. Use is being made of the fact that the child can already imitate.

The second area to be tackled at Stage 5 is the production of a range of functions in language. Halliday´s (1975) classification of communicative functions is a helpful guide, as is that of Joan Tough (1976, 1977a). The main aim of this section of work is to let the teacher see the relevance to her own work of a systematic conceptualisation of the purposes of language. It does not really matter if the structure the teacher chooses or develops is eventually different from the one suggested in the Manual or from that of Halliday or anybody else. What matters is that she should realise that there are different types of communicative functions and that it is possible to match activities to them. The categories used in the Stage 5 activities include carrying messages, giving directions, expressing words and needs, and using "yes" and "no", and these may be mapped without difficulty on to existing conceptual frameworks such as those of Tough and Halliday.

The third area tackled at Stage 5 is the broadening of the child´s conceptual thought. Two ways of achieving this are suggested. The first is by extending the breadth of meaning of words which the child understands or perhaps uses already. For example the child´s understanding of "milk" may be restricted to "something you drink from a cup", or of

"something that comes with breakfast cereal". One simple broadening of this concept would be to let the pupils see that milk is something which is packaged in bottles and cartons. This may seem to be a trivial expansion of the concept to a normal child or adult living in the community, but it was beyond the experience of one group of adult hospital patients visited during the project. At school, pupils also have the opportunity to increase their understanding of the concept by using milk in baking and cookery, and by understanding its origins by visits to farms and dairies. A second way of broadening the concept is by adding new words which are consonant with words already in pupils´ vocabulary, or new concepts which are consonant with existing words. Expansion of vocabulary in the classes of nouns connected with clothing, or in colour adjectives or in prepositions are all examples of the many types of development which may be promoted as the child´s confidence in the use of words grows through Stage 5.

Advice on teaching approaches in the context of the revised framework

The previous section related the five-stage framework of communication to the content of teaching. It referred in general terms to the reinforcement of behaviour which these activities were intended to develop. This final section of the chapter considers reinforcement itself more systematically, to anchor the advice on teaching strategies in the learning theory from which it was derived, and in the

study´s developmental framework. This will be done in four steps, namely, by examining ...

the need for positive reinforcement

the concepts of conditioned and unconditioned reinforcement

the substance of reinforcement

aspects of the delivery (or "schedules") of reinforcement.

The need for positive reinforcement

Reinforcement consists of "events that strengthen behaviour" (Skinner, 1953, p. 65). Thus, the sensory stimulation at Stage 1 is intended to elicit and strengthen any responses which the child may be able to make. And, adults obeying the child´s verbal directions at Stages 4 and 5 are strengthening the production of first words and first sentences. The common factor among all of these activities is that they use "positive reinforcement": they are aimed first at increasing the strength and frequency of behaviour which the teacher wishes, and not at decreasing the strength and frequency of difficult behaviour, such as temper outbursts and negativism.

Too much concern with difficult behaviour may lead teachers to use the techniques of "negative reinforcement" (removal of aversive events after "good" behaviour) and "punishment" (aversive events applied after "bad" behaviour). Apart from any ethical issues which may arise from their use, and the difficulty of finding any examples which could be used in the teaching of communication, these

techniques are unreliable for producing the outcomes

teachers intend and are prone to produce unwanted

side-effects (Neisworth and Smith, 1973, pp. 50-52). Also,

focusing on the reduction of undesirable behaviour may lead

to this becoming the priority, and may create the wrong

ambience for teaching as it may relegate teaching aimed at

the acquisition of skills and experiences to second place

(Glynn, 1983). Thus it is difficult to imagine how these

negative techniques of reinforcement may help to develop

communicative behaviour such as reaching (at Stage 2),

understanding words (at Stage 3) and producing words (at

Stages 4 and 5). As a result, the reinforcement which is

advised in the teaching activities of this study is positive

reinforcement, aimed at strengthening appropriate

communicative behaviour at or beyond the stage of the

framework which the child has attained.

Conditioned and unconditioned reinforcement

It is useful to draw attention to one distinction between

the type of reinforcement which occurs in the Stage 1

activities, and that which occurs at Stage 2 and beyond. The

distinction is concerned with whether the reinforcement is

unlearned or has to be taught. Watson (1973) explains the

issue as follows.

> "Using psychological jargon, we say reinforcements are
> "unconditioned" or "conditioned". An unconditioned
> reinforcement is unlearned. The child likes it the first
> time he is introduced to it. Candy, fruit, milk, meat,
> crackers and cookies are examples of unconditioned
> reinforcement. A conditioned reinforcement is something

that originally had little or no value for the child,
but as a result of it being associated with other
reinforcements, the child learns to like it, and it
becomes a reinforcement in time. "Conditioned" means
"learned". Thus a conditioned reinforcement is a learned
reinforcement" (Watson, 1973, p. 76).

Examples of unconditioned reinforcement are given in the
early teaching activities of the Manual because they seem to
suit the needs of children at Stage 1. They include food,
drink, physical stimulation and so on. These unconditioned
reinforcers are recommended in the hope that the severely
disabled children, who are functioning at this level, may
make a response to some general sensory stimulation. This
approach is necessary because there is little chance that
they will be reinforced by verbal praise or any of the other
conditioned reinforcers which can be delivered to children
at Stage 2 and beyond, as a result of what they have learned
from their interaction with people and from other
experiences.

However, it is desirable to move towards use of
conditioned reinforcement when children function at more
advanced levels than the passivity of Stage 1. In part, this
is because unconditioned reinforcers are more "artificial"
than conditioned reinforcers in the teaching activities
above Stage 1 (The concept of "artificial" reinforcement is
discussed below). It is also because conditioned
reinforcement is less affected by "satiation" than is
unconditioned reinforcement (Watson, 1973). For example, a
child who is reinforced by food or drink will have had
enough eventually, and will not produce the desired

behaviour for this reinforcement until a sufficiently great
state of drive for the food or drink has been restored.
Conditioned reinforcement is less influenced by the effects
of satiation, and this theoretical reason supports its use
at Stage 2 and beyond.

Substance of reinforcers

Watson (1973) lists examples of four main types of
reinforcer: edible, manipulatable, social and token.
Examples of the first three may be found among the
activities of the Manual. Edible reinforcers are used in
activities for stimulating the sense of taste at Stage 1 and
in group activities such as baking, at Stage 5. Examples of
manipulatable reinforcers occur when children make toys work
in cause-effect activities at Stage 2 and activities for
testing the understanding of speech at Stage 3. Examples of
social reinforcement occur throughout the Manual, when
teachers are advised to "show the child that you are
pleased": "showing" may take the form of smiling, verbal
praise, hugging or whatever other means the teacher feels is
appropriate for a particular pupil.

It is acknowledged that the terms of Watson's categories
are rather loose. He includes drinkable reinforcers among
the edible category (Watson, 1973, p. 75), and presumably
reinforcers for stimulating the senses of smell and taste
could also be included within this group as related sense
organs are in operation. Watson includes some reinforcement

by sound among his manipulatable reinforcers, but the Manual's activities for developing recognition of sound do not sit satisfactorily in this group, as the sounds will often be produced by the teacher (for example, in playing music) and not by any manipulation by the child.

However, this argument is essentially about unsatisfactory labels. More important to note is that no use is made of reinforcement by tokens - reinforcers which have no value in themselves, but are exchangeable for things which are reinforcing. Common reasons for token reinforcement include

> letting a child know regularly that his or her behaviour is progressing towards a standard at which tokens might be exchanged for edible, manipulatable, social or other reinforcers;

> providing interim reinforcement until it is convenient organisationally for the teacher to deliver reinforcement such as extra time for play

(Neisworth and Smith, 1973; Watson, 1973).

These reasons do not apply in the context of teaching early communication, as immediate reinforcement of desired behaviour is usually possible and appropriate. In addition, token reinforcement is also contrary, here, to another principle which affects the selection of any sort of reinforcement. The principle is that teachers should use natural reinforcers, rather than artificial reinforcers which are "not usually used in more normal, real-life situations" (Watson, 1973, p. 79). In the context of teaching communication, an example of an artificial reinforcer would be to give a child sweets, drinks or a plastic token for producing a two-word sentence, such as

"car down", in the Stage 5 activity on p. 227 of the Manual.
Such a reinforcement is artificial because it has no
linguistic relationship to the two-word sentence cited (in
contrast to the suggested reinforcement of being allowed to
let the car run down a slide), and because it is unusual for
people to use reinforcement like this in real-life
situations. Watson sees a useful place for artificial
reinforcement in teaching children self-help behaviour such
as dressing or toileting but he says that, even with these
skills, teachers should try to move towards some
reinforcement which "will maintain the behaviour, ... that
is natural to the situation, ... (and) that is usually found
in the situation" (Watson, 1973, p. 79). It was possible to
make suggestions for natural reinforcers throughout the
activities in the Manual, even the activities for Stage 1,
and therefore no examples of artificial reinforcers are
provided.

Watson takes the discussion of natural reinforcement one
stage further by noting that reinforcement is often
intrinsic in a task - people begin to take charge of their
own learning by taking part in activities because they find
them satisfying. It is easy to list activities such as
playing music, reading or taking part in sport, which have
this intrinsic reinforcement for able-bodied adults. Yet it
is possible to suggest activities such as "foot-exercises"
(Manual, p. 53) and "foot-painting" (p. 55), from Stage 1
onwards in which children might be reinforced by the act of

participation. Of course, any activity which is reinforcing and enjoyable may become monotonous and boring with over-use. Thus, to lessen the chances of satiation, and rejection of the activity which may result from this, teachers are frequently given advice such as "five minutes of this activity will be enough at any time" (Manual, p. 59), and "help to keep it (the toy) special by storing it away when you have finished" (p. 106).

"Schedules": delivery of reinforcement

It is common to describe the delivery of reinforcement in terms of units of measurement and of regularity.

With reference to units of measurement, Neisworth and Smith (1973) distinguish between "ratio" reinforcement which is delivered according to how many times a desired action is produced, and "interval" reinforcement which is delivered after fixed or variable periods of time. In general, children's responses to the activities in the Manual will be reinforced according to ratio schedules, but there is a place for the use of an interval schedule when teachers wish to see particular responses appearing at certain times of the day. For example, the pupils' times of arrival at school, eating and going home are times when teachers might hope to hear specific target words for the names of objects or for making requests (Manual, pp. 195-205 and 229-242). At these fixed times, teachers will reinforce pupils for speaking or signing certain target words because they wish

the pupils´ use of these words to become more

"time-conscious", i.e., the pupils will recognise when

payoff for an appropriate response is imminent (based on

Neisworth and Smith, 1973, p. 62). However, this

time-related reinforcement will be less frequent in practice

than ratio reinforcement because fixed events such as

arrival and meal-times fill much less of the school day than

do the periods of other teaching activity.

With reference to regularity, Watson (1973) distinguishes

"continuous" reinforcement (which is delivered every time

the child produces a desired response) from "intermittent"

reinforcement (which is delivered less frequently).

Neisworth and Smith (1973) make a different type of

distinction, namely, between reinforcement which is

delivered after a "fixed" number of actions or units of

time, and reinforcement which is "variable", that is, given

randomly for the desired behaviour.

The relative merits of the various schedules of

reinforcement may be summarised as follows.

> "... continuous reinforcement produces a high level of
> performance, but only as long as the behaviour is
> reinforced. Partial reinforcement ... has the advantage
> of greater resistance to extinction once reinforcement
> has been discontinued. The advantages of both can be
> combined by developing the response through continuous
> reinforcement and maintaining the reinforcement until
> the performance has reached a good level. At that point,
> the continuous schedule can gradually be changed to a
> partial schedule, with increasingly intermittent
> reinforcement".

> "Bugelski (1971) applies these principles to the use of
> reinforcement in teaching children. (1) In the early
> stages of training, reinforce the child at every
> occurrence of the desired response ... (2) Once learning

is well under way, begin to omit reinforcement from time to time".

(Wingfield, 1979, 131-132)

The practical implications of these conclusions on schedules of reinforcement may be seen among the advice in the Manual's activities. Continuous reinforcement is recommended throughout Stages 1 and 2 to establish desired behaviours such as tracking moving objects (at Stage 1) and making causal links (at Stage 2), though it is possible even at Stage 2 to begin using intermittent reinforcement to help a response become stronger. For instance, this occurs in the reaching activity (Manual, p. 111) in which the teacher is advised to place objects at gradually increasing distances from the child so that the effort which produced reinforcement when the activity was first presented must be persevered with and refined before reinforcement may be given. Similar intermittent reinforcement is advised for shaping two word sentences (in the Stage 4 activities) and the clearer articulation of words in speech (at Stages 4 and 5).

Another quotation from Wingfield provides a useful ending for the discussion of schedules in particular and for the discussion of reinforcement in general.

"The essence of instrumental training ... involves the careful witholding and delaying of reinforcers; in short, manipulating the reinforcement schedules" (Wingfield, 1979, p. 132).

The Manual did not set out to be a course in the systematic use of reinforcement; it was concerned more with relating

the teaching of communication to children's stages of development. However, the advice which teachers were given on the delivery of the content was based firmly on techniques of systematic teaching and the principles of reinforcement which underlay them.

Coda

This chapter has shown how the revised five-stage framework may be used as a basis for selecting learning activities for pupils who have few skills of communication. The selection of educational experiences for pupils can not be an entirely rational process ultimately, for rationality does not do justice to its complexity. The process must also be iterative because every act of teaching and learning influences subsequent acts. It is a heuristic process too because every act of teaching should increase teachers' knowledge of their pupils, themselves and the experiences which they offer. Finally, the selection of the experiences of the curriculum is a symbiotic process because what teachers decide to teach has implications for how they teach, and how they decide to teach has implications for what may be taught. For example, the type of teaching used in the sensory stimulation of the most profoundly-disabled pupils requires a one-to-one approach which is quite different qualitatively from the skills required to work with a group of more able children in a cookery lesson. Conversely, an adherence only to group teaching or only to

individual teaching would severely restrict the range of experiences which could be offered by a school. Thus, there can never be confident prescriptions of how and what pupils should learn. There will always be a need for accommodation of the science of learning and the art of teaching.

This chapter has provided the rationale on which the content of the teaching materials in the Manual is based. The next chapter deals with the issue of presenting the materials so that teachers might be encouraged to adopt the project's view of communication in their professional practice.

CHAPTER SIXTEEN

THE REVISED MANUAL

Introduction

The manuals which were used in the pilot study had been
written simply to hold information. The information included
guidance on the first five-stage framework, teaching
activities for children, setting objectives, elementary
behaviour modification, and recording results. But little
thought had been given to the presentation of these ideas.
There were two reasons for this.

First, the original priorities of the pilot study were to
test the validity of the five-stage framework as a basis for
teaching children, and to examine the usefulness of
school-based workshops for developing the skills and
understanding of staff. The form of the presentation of the
ideas seemed to matter much less than these issues.

Second, the schools were to have weekly tutorial sessions
for one school term at least. Therefore the staff could have
first-hand answers to questions about the draft manuals both
in group meetings and in individual sessions in their
classrooms.

But these assumptions did not take into account the fact
that staff were to use and study the manuals on the days
between the workshop meetings. And it was soon clear that
they had difficulty understanding what they read. These
difficulties were expressed in the form of many requests for
clarification of what had been written. Staff also gave

explicit advice that the manuals should be rewritten in a style which could be understood more easily. It was mentioned in Chapter Fourteen that the draft manuals had been written in a conversational style which was influenced by "Let Me Speak" (Jeffree and McConkey, 1976b), "Let Me Play" (Jeffree, McConkey and Hewson, 1977a) and "Starting Off" (Kiernan, Jordan and Saunders, 1978). However, it was noticed during the survey and the pilot study that several schools had bought copies of these books, but only rarely had they been read. Would a different style of writing make the ideas more accessible?

Alterations to the content of the draft manuals were also necessary in view of advice which was misleading or downright wrong. For instance the section dealing with sensory stimulation contained the unwise suggestion that pepper could be used for stimulating the sense of smell in children at Stage 1. Now, many preschool children discover the olfactory properties of pepper of their own accord. But a child with profound mental handicap might well be physically and emotionally distressed if the experience were not handled carefully.

Establishing the context

The manuals had to be rewritten. But what form should they take? Patricia Wright examined the question of form in her review of research findings in the presentation of technical information (Wright, 1977). Her conclusion was that "there

is no single "best" presentation format", for "there are a number of studies demonstrating the advantage of particular presentation formats in specific circumstances" (Wright, 1977, p. 94). The right form of expression for one situation may be anything but right for another. Therefore, it is wise to look first at the context in which the technical information is to be used, and at the requirements of the readers, before making decisions about how technical writing may lend itself to easy reading (Tichy, cited by Wright, 1977, p.95).

What, then, was the context in which teachers were using the manuals? It was a context in which three factors were at play; the time of reading, the purpose of consulting the manuals, and the manner in which they were consulted.

1 <u>Time of reading</u>

Some staff on the workshops consulted the manuals during class-time. The manuals were frequently seen open on teachers´ desks in classrooms. They were also consulted at times when staff were not in contact with pupils, either at home or during non-teaching times at school.

<u>Implications</u>

Staff should not have to make unnecessary use of their teaching or non-teaching time searching manuals for information they needed. The information should be easy to locate in the manuals, and be easy to understand. Also, the information should not be spread across three manuals, but should be held in one, if possible.

2 Purpose of reading

Staff consulted the manuals to decide on children´s level of communication, to look for activities that were appropriate to children´s level of development, and to find hints on helping children who had special problems with learning. These views had of course already been expressed in the survey of attitudes (Chapter Seven).

Implications

It was necessary to respond to needs which had already been identified in the Survey. The following points were especially important.

(From Recommendation 2, Chapter Seven)
Schemes of teaching early communicative skills should be prepared. These should be set in a developmental framework so that they are not seen as isolated units of teaching, but they should be sufficiently flexible to take account of different rates of progress.

(From Recommendation 3, Chapter Seven)
Staff need guidance in the practice of systematic teaching so that they set reasonable objectives for the children and so that they create conditions in which learning has the best chance of occurring. Specific training is required in

    the management of very active children and severely
    withdrawn children;

    the devising of activities and materials for working
    with profoundly handicapped children.

(From Recommendation 5, Chapter Seven)
Teachers require procedures for assessment which let them progress easily to the statement of activities for teaching.

3 Style of consultation

Staff did not read the manuals as a narrative. They dipped into them for specific information and guidance as needs arose. Also, staff did not see the manuals as a source of knowledge which had to be committed to memory. They would

consult them to clarify some issue, then put them aside.

Implications

The implications here are the same as those for the first part of this section. Information should be easy to find and easy to understand.

The conclusion from the above implications is that two decisions had to be taken about the revision of the manuals. The first decision concerned the content of the materials, that is, the information which school staff required for teaching communication. The second decision concerned the format of the materials.

The examination of these two issues revealed principles which guided the writing of a revised manual of project materials. The remainder of this chapter describes the process of that examination and construction.

Background to the new materials

On the basis of the survey and the pilot study, the written materials had to help teachers answer three questions.

What is the child's current level of communication?

What teaching activities are appropriate to this level of communication?

How can teachers overcome difficulties which prevent the child learning, even when a good match of activity to developmental level has been made?

1   The child's current level of communication

The main task here was to present the five-stage framework in a form which was easy to understand, and which allowed children's level of communication to be assessed quickly and

accurately.

One important solution to the issue of gaining access to information about communication was discussed earlier. It was the revised five-stage framework. But how could the framework be presented so that teachers understood it easily? An answer to this question came as a result of delivering a talk on the framework at a national in-service course for teachers and instructors at Jordanhill College of Education in September 1980. The main ideas of the framework were outlined in an overhead transparency reproduced below as Table 21. This table had the following comments tabulated for each developmental stage:

    1 the principal characteristics of communication
    2 the general aims of teaching
    3 examples of appropriate teaching activities.

Several teachers asked for copies of the table after the lecture. They said that it had made communication easier to understand and that it gave them sufficient guidance to devise activities for their own pupils without any further assistance. Therefore, it seemed sensible to think of arranging an introduction to the project's materials round a simple layout of ideas like this.

* Proposal

Table 21 should be used as an easily-understood introduction to the five-stage framework of communication.

TABLE 21

The conceptual framework of the revised teaching scheme

Stage & Description	Targets for work	What to do
1 Children with profound learning difficulties	Make them aware of: ... sights ... sounds ... taste/smell ... touch ... movement.	Find activities which stimulate each sense.
2 Children begin to take an active interest in their surroundings	Develop skills of thinking & action: watching & finding, independent action, awareness of cause & effect, posit-ioning, connections response to sound	Find activities to help the child reach, find things, watch things, make things happen, connect objects ...use balance & gravity, respond to sounds (vocal, musical, environmental)
3 Children under-stand some words; they imitate some sounds and actions	Help them find meaning in words & other symbols; help them imitate more actions and sounds.	Find activities which help the child to copy actions, copy sounds, take part in make-believe play, attend to useful words.
4 Children speak single words	Encourage then to say words they understand; let them see that language is a tool	Set up situations (e.g., missing words) which may foster words naturally. Avoid questions (espec-ially those with"yes"/"no" answers) and demands, when possible.
5 Child use con-nected speech.	Encourage them to produce more con-nected speech Extend their under-standing of language and ideas Help them use language for a wider range of purposes.	Find activities which help the child to transmit messages in a variety of ways;broaden existing concepts

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2 <u>Matching teaching activities to levels of communication</u>

Matching activities to stages was not a difficult problem as the five stages, being based on a pragmatic theory of communication, are implicitly concerned with what children are doing. The task was to identify the characteristic quality of communication at each of the five stages and to identify activities that are appropriate to these developmental levels.

The theoretical link between stages and their equivalent sets of activities was discussed in Chapter Fifteen. The revised materials had to provide a sufficient number of examples to illustrate the broad aims of teaching at each of the stages and to provide a "menu" of practical lessons which could be used as starting points.

* <u>Proposal</u>

The revised materials should provide sets of activities which were easily and appropriately matched to the five stages.

3 <u>Barriers to learning</u>

Difficulties arose in two areas, though the response to both was similar.

The first area was the range of difficulties which result from children's clinical conditions. For example, children who are overactive are likely to have difficulty concentrating and will task a teacher's skills of classroom management. And children who behave in an autistic fashion often seem as if they do not want to have any human contact,

let alone take part in a teaching activity.

The second area is the difficulty with learning itself, which is the nature of mental handicap. Teachers have to know how to teach so that they make best use of the time they spend with children.

There is a solution which responds to both areas of difficulty. Teachers should know and practise systematic and efficient techniques of teaching. The standard way of imparting these techniques in special education is to give teachers training in behaviour modification. But we have seen earlier (Chapter Eight) that this practice has produced curricula which pay more attention to the techniques of teaching than to the content of teaching. We have also seen (from the survey) that teachers and instructors may well dislike the behavioural approach. And we have seen (Chapter Fourteen) that an attempt to shoe-horn the pilot-study staff into a behavioural way of working effectively provoked a "walk-out" from one workshop.

But there is no escape from the fact that efficient techniques of teaching exist. We have seen in Chapter Five that Bruner would regard discussion of education as trivial if it took account of knowledge and development but did not take account of instruction. There is even a backhanded acknowledgement of the importance of instruction in the Bryen and Joyce (1985) article (discussed in Chapter Eight) for it shows that verbal skills may be taught even when the product and process of learning have little value as

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functional communication. Good techniques of instruction are important. The problem is how to be prescriptive about them.

This is a point at which it is helpful to remember that the project was an exercise in curriculum development. That is, it was an attempt to use explicit "principles (to) ... extend the range of materials and teaching strategies by building on the curriculum ... in the light of (these) principles" (Stenhouse, 1975, p. 124). Stenhouse sees this process as an acquisition of understanding and insights which enable teachers to make the "principles" their own in the form of a development of skills, knowledge and attitudes in their professional practice (Stenhouse, 1975 and 1983, passim). He is writing about a process which Stake (1980) calls "naturalistic" generalisation and which, in turn, Hamilton (1976) sees as a progression from the formal language which is used for making statements in scientific literature to expressing the same ideas in terms of the unique circumstances of the individual teacher. The concept of naturalistic generalisation has already been described in different terms in the quotations early in Chapter Thirteen where Skinner (Copeland, 1986) and Weisgerber (1979) affirm the importance of the active involvement of learners in their own learning.

The team in Project T.A.S.S. (Training and the Severely Subnormal; Robson, 1980) developed skills in instruction of teachers working with children at the two-word level by using workshops in behaviour modification along the lines of

those used in the E.D.Y. Project (Education of the
Developmentally Young; Foxen and McBrien, 1981). Some
resistance to the techniques of presentation was encountered
in the early days of the workshops (Jones, 1980) but the
team considered that it was worth the effort to persevere
until the resistance disappeared. The priorities of the
Early Communicative Skills Project were different from those
in Project T.A.S.S. Concern about pupils´ developmental
level and the content of the experiences offered to them had
to be given a priority which was equal to that of
instruction. Therefore the prescription of techniques of
instruction which could be generalised to the circumstances
of the individual teacher would have to be made within that
context.

* Proposal 3

The new materials had to present clear advice on systematic
teaching in a form which was acceptable to staff who were
not necessarily committed to the behavioural approach. This
should meet the principle of "objectives in a developmental
framework" (MacKay, cited by Fraser and Grieve, 1981, p.
174), in order to combine the efficiency of systematic
teaching with the pragmatic view of communication which has
been advocated in the earlier chapters.

* Proposal 4

The new materials should provide guidance on specific types
of difficult behaviour which frequently accompany mental
handicap. Such behaviour ranges from overactivity and poor

attentiveness to aggressiveness and isolation - the points

which caused teachers and instructors in the Survey most

concern.

The four proposals which have been drafted above are

summarised in Table 22.

TABLE 22

Summary of proposals for the revised materials

Table 21 should be used as an easily-understood introduction to the five-stage framework of communication.
The revised materials should provide sets of activities which are easily and appropriately matched to the five stages.
The new materials should present systematic teaching in a form which is acceptable to staff who are not necessarily committed to the behavioural approach. This should meet the principle of "objectives in a developmental framework".
The new materials should provide guidance on specific types of difficult behaviour which frequently complicate severe learning difficulties.

The format of the new manual

The proposals in Table 22 outline the substance of the new

manual. However,

"when the reader´s understanding is important, the
writer´s choice of presentation format is highly
critical" (Wright, 1977, p.129).

What would be a suitable format for a text which presented

the ideas in Table 21 to teachers? Some useful suggestions

come from the literature on technical writing, in particular

from the literature on writing instructional texts.

Hartley concluded from his review of a study by Wright and Reid (cited below) that the best layout for instructional text depended upon the objectives of the learner (Hartley, 1978, p. 64).

The objective of teachers using the preliminary manuals on the workshops was to gain quick access to information which they could understand and which would help them work with pupils. They found that the information in these manuals was useful, though it had often to be teased out for them. One of the sources of difficulty was that the workshop manuals were written in continuous prose and had no set format. Continuous prose was not required as staff were reading to find information, not to follow a narrative.

In addition, prose may create difficulties of understanding. Wright, in her review of research findings on presenting technical information, concluded that non-prose is preferable to prose when the subject matter is complex (Wright, 1977, p. 129). Earlier, she and Reid had examined various styles of presentation and had found that prose was the most difficult to understand and that an algorithm was the least difficult for solving difficult problems (Wright and Reid, 1973). However, they also found that tabulated instructions were best for solving simple problems, but that linked statements were easier to remember.

The essential information which teachers required has been summarised earlier in Table 21. That type of information would be difficult to package into tables or algorithms, as

explanations and advice might not always compress conveniently into these formats. A certain amount of prose would be required to make the instruction clear. Wright acknowledged that

> "prose formats have their uses, and simplified prose
> formats can be particularly easy to remember.
> Headings, summaries and questions can all be used by
> the writer to assist readers with particular
> objectives" (Wright, 1977, p. 129).

There are formats for instructional text that combine the concise presentation of tables, diagrams and algorithms with the scope that prose provides for explanation of ideas. Like Wright, Hartley recommends the use of headings and sub-headings. For example, sub-headings placed in the left-hand margin help readers to scan and select relevant material. Hartley also recommends systematic use of space on the page to show the structure of an argument (Hartley, 1978).

An extensive and elaborated form of this advice had been described a decade earlier as "information mapping" by Robert Horn and his associates (Horn et al., 1969, 1971). Information-mapping is a set of procedures for presenting instructional text in diagrammatic form, as a means of summarising advice, concepts, principles, procedures and so on. The most striking aspects of information-mapping are its "visible features" which are used to present the text. The visible features of information mapping which are most relevant to this study are

* presentation of information in blocks
* labelling each block of information

* uniform and functional systems of labelling
  headings
* beginning each new unit of instruction on a new
  page
* presentation of feedback in close proximity to
  instruction
* cross-referencing to relevant information.

However, Horn also stresses the importance of four sets of

"invisible features" of information maps:

* specification of objectives in behavioural terms
* specification of prerequisite knowledge or skills
  needed before the unit can be successfully tackled
* classification of the subject-matter into
  component types (concepts, procedures, etc.)
* definition of successful learning.

Horn´s "invisible features" may be supplemented by the

following categories from Lewis´s checklist on the format of

writing:

* contents list (of main topic headings)
* statement of main aims
* statement of objectives
* outline (note form) or introduction (paragraph) or
  a concept diagram
* list of materials to have ready for use during the
  unit
* indication of time the unit will take
* indication of nature of assignment the learner
  will carry out
* indication of how this unit fits into the course
  as a whole
* procedure for working through the unit, indicating
  any alternative route
* indication of possible extension or follow-up
  activities
* instructions on what to do next

(Lewis, 1981).

Some additional, invaluable guidance was provided by an

unpublished paper containing a proposal for a medical

practitioner´s handbook on the treatment of cardiac

disrhythmias (Dunn and Harden, 1980). The handbook would be
written under the assumption that it would be a "job aid"
for use in the daily practice of doctors who were not
cardiac specialists and who required rapid access to points
of reference when working through a problem of patient
management. This handbook intended to provide doctors with a
programme on the diagnosis and treatment of disrhythmias,
approaching the problem from the three standpoints of
description, treatment and presenting features. Each
approach would have its own section in the handbook, and the
various units of each section would be considered under a
set of standard headings. There would be extensive
cross-referencing across the three sections of the handbook
for convenience and to acknowledge the inter-relationship
among them. The inter-relationship would be further
emphasised by using wire binding for the manual so that any
one of the three sections could come "first", depending on
the doctor´s individual preference in a specific piece of
casework.

The content of the revised manual

The proposals of Table 22, the principles of designing
instructional texts outlined above, and the concept of the
manual on the disrhythmias (down to the spiral binding) were
all used to guide the production of a mimeograph , "Early
Communicative Skills". The mimeo., now published (MacKay & Dunn,
1989), has five sections, summarised below in Table 23.

TABLE 23

The principal sections of "Early Communicative Skills"

SECTION	OUTLINE OF CONTENTS
1	Introduction.
2	The development of communication.
3	Teaching activities.
4	Problems which affect children's ability to communicate.
5	Record sheets.

Each of these sections will now be described in greater detail.

1 <u>Introductory section</u>

This section aims to make the content of the entire text as accessible and useful as possible. It provides a concise introduction to the five stages of communication. The introduction begins with a simple outline of the five stages (similar to Table 20), and develops into a statement of the full framework (i.e., Table 21).

The introduction then gives advice on how to use "Early Communicative Skills". It explains that Sections 2, 3, and 4 take distinct, but related approaches to the practice of teaching communication to children with severe or profound learning difficulties. The approach which teachers choose will be determined by their particular need when they consult the manual. They need quick access to the

information they require.

The introduction also gives guidance on how "Early Communicative Skills" may complement activities and approaches which teachers are using already.

The second, third and fourth sections form the core of the manual. They present three distinct approaches to communication, corresponding respectively to the description, treatment and presenting features sections of the disrhythmias handbook.

2 The development of communication

This section describes the form and purpose of communication at each of the five stages between the earliest stage of development and connected speech. It also provides broad, general advice on choosing appropriate teaching activities. The aim of the section is to help teachers understand the communication of their pupils in terms of the five stages of development.

The text for each stage of development was presented under a set of standard headings, as described in Table 24.

TABLE 24

Standard headings in the "Development of Communication"
section of the instructional text

HEADING	CONTENT
LABEL	This is a quick-focusing label such as "The child begins to understand words and gestures". It lets readers know if the stage they are reading about is approximately suitable for the children they are working with.
KEY IDEAS	This clarifies and expands the meaning of the label, above.
WHAT IS COMMUNICATION AT THIS STAGE?	A short list of the principal characteristics is provided.
HOW ELSE MAY THE CHILD APPEAR AT THIS STAGE?	Other behavioural characteristics of children at this stage are listed.
CONFUSING CASES	This section describes children whose level of communication is frequently difficult to assign to one particular level.
AIMS OF WORK AT THIS STAGE	General aims such as "to enable the child to understand words" are listed.
TYPES OF WORK	Broad categories of activities which are likely to meet the AIMS are listed.
MOVING ON	This section lists signs which indicate that the child is functioning at a more advanced level than the stage which has just been described.

3 Teaching activities

This third, and largest, section of the manual consists of

twenty groups of teaching activities, matched as closely as

possible to specific stages of the development of

communication and to appropriate types of teaching, as

outlined in the final section of Chapter Fifteen. The

activities may be used directly as the content of teaching

plans for individual children. They may also act as a

stimulus for teachers´ own ideas for work with children. The aim is both to give teachers direction and to encourage them to take decisions that respond to their own needs in daily practice.

The description of each activity begins on a new page of the manual, and is outlined in note-form under the nine standard headings of Table 25.

TABLE 25

Standard headings in the "Activities" section of the instructional text

HEADING	CONTENT
LABEL	A label which either names the activity or describes it briefly.
AIM	A specific statement of the purpose of the activity.
SUITABILITY	This matches the activity to one of the five stages of the development of communication. It also lists some acts of communication which children (for whom the activity is suitable) are likely to be showing already.
MATERIALS	A list of equipment which is likely to be useful in the activity.
PROCEDURE	A description of how the activity may be carried out.
TEACHING HINTS	Advice on techniques of teaching which will increase the likelihood of the activity reaching its aim.
RECORD-KEEPING	A guide to home-made charts or diaries which will help the teacher or instructor to keep a record of work and of progress.
MOVING ON	A direction to more advanced activities if the activity which has just been described has been completed successfully.
LESS DIFFICULT ACTIVITIES	A list or group of activities which may be attempted if the activity which has just been described is not completed successfully.

It should be noted that although the content of teaching

activities is clearly prescriptive in this section of the manual, there is also a prescription of appropriate techniques of teaching. This is in response to the third proposal of Table 22, above. The advice on teaching occurs under the "Procedure", "Teaching Hints" and "Recording" sections of each activity. The advice is drawn from interactional approaches to the teaching of communication and from a variety of aspects of behavioural methodology including reinforcement, obtaining stimulus control, prompting, chaining and successive approximation. The nature of this advice was tailored to the requirements of each specific activity and was based on a variety of published sources on systematic teaching and the teaching of communication. It was hoped that this oblique introduction of behavioural methods would overcome some of the resistance to them which had been encountered in the Survey and the pilot study. The importance of behaviour for teaching and learning is also considered in the next section of the manual.

4 Children´s problems

This section of the manual deals with problems which prevent children communicating efficiently. Examples include echoed speech ("echolalia") and withdrawn behaviour. General advice on handling these problems is provided and, when possible, the problems are cross-referenced to stages in the development of communication. Each problem is dealt with on a separate page of the manual and is outlined under the six standard headings of Table 26.

TABLE 26

Standard headings in the "Problems" section of the
instructional text

HEADING	CONTENT
LABEL	A brief description of the problem.
GENERAL INFORMATION ABOUT THE PROBLEM	A more detailed description of the main features of the problem.
DEVELOPMENTAL STAGE	The developmental stage at which the problem is likely to appear (when this information is appropriate).
GENERAL ADVICE ON TEACHING	The reader is given general advice on techniques of teaching which are likely to make the child's problems more manageable.
INFORMATION ON TEACHING	Cross-references to suitable parts of the "Teaching Activities" section of the text are provided.
RELATED PROBLEMS OF COMMUNICATION	Cross-references to other parts of the "Problems" section of the text are provided.

The "Problems" section completes what may be termed the

core of the revised manual, that is, sections 2, 3 and 4.

This core offers teachers three approaches to the teaching

of communication:

it sets teaching in the overall context of
children's development of pragmatic communication;

it provides a "menu" of teaching activities to cater
for a wide variety of individual circumstances, and
to give staff direction on devising suitable
activities of their own;

it gives staff advice on solving problems so that
they may concentrate on teaching communication
rather than on suppressing difficult behaviour.

These three approaches are distinct conceptually. They

are difficult to separate in reality for they are simply

three different starting points from which to consider

children's communication. This unity is made clear

throughout the manual by extensive cross-referencing across and within the three principal sections.

5 Record-keeping

The final section of the manual consists of examples of charts and record-sheets which teachers and instructors had found useful during the workshops of the pilot study. They were included in response to Recommendation 5 of the survey of opinions. Teachers and instructors wanted guidance about assessment and assessment charts so that they could find a satisfactory balance of charting and teaching.

Advice on techniques of teaching in the new manual

No place was made in the new manual for a section specifically on systematic teaching such as that which had appeared in the original materials. The reasons for this omission were partly the advice of participants in the pilot study that revised materials should contain less written material, and partly the realisation that advice on teaching could be incorporated appropriately within the lesson outlines of the revised manual. This advice is included among the material which appears under the sub-headings of "Procedure", "Teaching hints", "Moving on" and "Less difficult activities" in the Activities section of the Manual.

One outcome of relating advice on teaching directly to specific activities is that this advice must take account of the developmental framework on which the activities are based. The following discussion will show how the linking of

teaching and framework helps to provide a developmental
rationale for advice on teaching approaches across the range
of activities in the Manual.

The Manual contains twenty groups of teaching activities.
Nineteen of these groups may be mapped onto the five stages
of the framework of communication, as indicated in the
subsections below. (The twentieth, "Alternatives to speech",
provides more general guidance which may be useful to
teachers working with pupils at Stages 3, 4 or 5.) The
discussion which follows will show that the approaches to
teaching which are recommended in the nineteen groups may,
like the content of the activities, be related to the five
stages. These stages will now be considered in order.

Stage 1 activities

Stimulating the child's hearing   (7 activities)
Stimulating the child's vision   (4 activities)
Stimulating the child's sense of touch   (4 activities)
Stimulating the child's sense of movement (5 activities)
Stimulating the child's sense of smell   (4 activities)
Stimulating the child's sense of taste   (1 activity)

The nature of the teaching advised in all of this group of
activities is determined by the severely restricted level of
development of the pupils. It takes the form of stimulation
of one or more of the child's senses, in the hope that the
child will react with a general, almost reflex, movement.
For example, the child may react to stimulation of taste
(Manual, p. 75) by making more frequent mouthing movements of
the tongue when certain foods or drinks are dropped on his
or her tongue. Excitement, distress or anger may be
expressed when musical sounds are played (Manual, p. 31, 35).
Gagne called the production of these responses, "signal

learning". It is the earliest type of learning which he

recognises in his hierarchy of learning types (Gagne, 1965,

1970, 1974, 1985) and it is essentially the consistent

production of a diffuse reflex response to some stimulation.

Some children have such severe difficulties that no

response to the teacher's stimulation may be noted or may

even be possible. Therefore, in part, the quantity of

activities suggested at Stage 1 is intended to be a source

of ideas from which teachers may find variety and interest,

and may thus persevere in providing stimulation, no matter

how unresponsive the pupils may be. However, the variety of

the Stage 1 activities serves another purpose. It is to show

teachers that there is a wide range of situations and modes

of stimulation which they may explore in the hope of

discovering some circumstances in which a child with even a

profound degree of learning difficulty will react

consistently. When a response is obtained consistently, the

act of teaching has the chance to change qualitatively from

supplying stimuli to building an interactive relationship of

a type which may be developed through the Stage 2 activities

and the different types of teaching approach which are

described there.

Stage 2 activities

Watching and finding things   (5 activities)
Handling objects   (11 activities)
Behaving purposefully   (6 activities)
Making things happen   (5 activities)
Understanding the positioning of objects   (5 activities)
Recognising and understanding sounds   (7 activities)

The critical difference between teaching children at Stage

1 and teaching those at Stage 2 is that the Stage 2 children

are noticeably able to respond to the efforts of their
teachers. This responsiveness enables teachers to use a
variety of techniques of systematic instruction to promote
what Gagne calls "stimulus-response" learning - learning in
which children show more precise responses than the diffuse
responses of Stage 1, to more specific aspects of stimuli
than the general stimulation of Stage 1. Gagne illustrates
the difference between signal and stimulus-response learning
thus:

> "A bell never really has anything to do with
> eyeblinking, except as a signal for it. But because of
> the occurrence of stimulus-response learning, a coloured
> block may become for a child a thing-to-be-picked-up ...
> This learning event appears to be ... a
> "successive-approximation" procedure. The learning that
> occurs here, as Skinner says, is a matter of shaping"
> (Gagne, 1965, pp. 71 and 73).

The teacher's style of interaction with the child, and the
choice of materials used in these activities, are all
designed to evoke a response which may be shaped into a more
precise action which will give children more control over,
and understanding of, their surroundings and their
relationships with people in them. This process is covered
in the Manual across a variety of circumstances. For example,
increasingly-refined physical movements are used in the
activities using large toys on wheels (p. 127) to help a
child develop ideas about self-propulsion and about letting
adults know what he or she wants. And the use of sound is
used to develop understanding of the qualities of objects
(p. 147) and the localisation and identity of objects (p.
149 , 153).

A more advanced form of shaping is used as the Stage 2

tasks increase in complexity. It is "chaining", "the connection of a set of stimulus-response links in a sequence ... sequences that are made up of motor responses, like that of turning on a television set or a washing machine" (Gagne, 1965, p.87). Chaining is used in activities such as the building of towers (p. 137), operating simple mechanical toys (p. 129) and pulling a cord to draw an object attached to it within reach (p. 117).

It is sometimes difficult to be confident that what appears to be a simple stimulus-response connection is instead a chaining of connections (Gagne, 1965, p. 87). A sequence of individual components may be easy to identify in the complex action of building a tower, but even the apparently simpler act of reaching for an object is a sequence of actions, some or all of which may have to be taught individually to some pupils. Teachers are advised to take account of this potential difficulty in activities such as "reaching for food" (p. 115), by helping children to grasp a spoon or mug as a means of building up the chain of actions which will let them reach for, and then consume, food.

Finally, the nature of reinforcement at Stage 2 is different from that in the Stage 1 activities where the teacher made physical responses such as providing food or drink, or handling. At Stage 2 and beyond, verbal or social encouragement (e.g., "Show the child that you are pleased", p. 114) begins to be useful, as does the intrinsic reinforcement of satisfactorily completing or participating

in an activity.

Stage 3 activities

Imitating actions	(4 activities)
Imitating vocal sounds	(2 activities)
Make-believe play	(4 activities)
Understanding words	(6 activities)

The principal difference between the nature of teaching at Stages 1-2 and Stages 3-5 is that language becomes an important feature in the higher stages. The aim of work at Stage 3 is to enable children to understand language. Therefore, the prescription of teaching for them has to begin to take account of what Gagne calls learning by "verbal association", the establishing of chains in which the child first learns to recognise an experience, such as an object, and then makes a "coding connection" (Gagne, 1985, p. 40) between the experience and the auditory, visual or kinaesthetic pattern by which it is represented, respectively, as a heard, written or spoken word.

In the 1965 edition of "The Conditions of Learning", Gagne moved directly from a discussion of learning nonverbal chains to learning to speak words by verbal association. This is a long step which does not take account of the complexity of "coding connections" and of the difficulty which children with severe learning difficulties may have in learning to understand the connection before they are able to articulate it in speech. This difficulty is recognised in the Manual by advising teachers to take care that pupils are helped to perceive individual spoken words and to make connections between these words and the experiences they represent. For instance, teachers are advised

> to use a small selection of four to six target words on
> which to focus;
> to draw the children´s attention towards these words in
> informal play, or as they occur naturally in daily
> routines, rather than in face-to-face teaching;
> to use short sentences in which the target words are
> prominent.

The foundations for this advice may be found in sources such
as Gillham (1979), Cheseldine and McConkey (1979), and is
included in all ten of the activities of the "understanding
words" section of the Manual (pp. 176-190).

To assist teachers with ideas for the reinforcement of
understanding, some suggestions for making events contingent
on demonstration of understanding spoken words are suggested
in the "testing for understanding" activities (pp. 187-192).

The development of make-believe play from acts of
imitation occurs, like the development of the understanding
of speech, at Stage 3. The early activities in the imitation
sections make use of successive approximation to shape
actions (e.g., pp. 155, 157, 159) and nonverbal vocal sounds
(e.g., pp. 164, 166) which adults have modelled for them.
The activities concerned more specifically with make-believe
are in the upper reaches of Stage 3 developmentally. The
teacher´s aim in these activities is to elicit some
spontaneous actions as a result of stimulating the child´s
imagination by an interesting choice of teaching materials
and other setting events. However, the aim (spontaneous
action from the pupil) does not imply that the teacher is
passive in these activities. McConkey (1984) advocates the
use of modelling a selection of likely actions in this type
of activity, and that approach, combined with the

reinforcement of any spontaneity from the child, is advised as a procedure on which to build the long chains of actions which occur in activities such as "bringing toys to life" (p. 172) and "cardboard vehicles" (p. 174).

Stage 4 activities

Producing first words   (10 activities)

The type of teaching which is recommended at this stage in the Manual is more obviously related to Gagne's description of "verbal association" than was the building of understanding at Stage 3. The setting events are similar to those at Stage 3, but the teaching tactics are aimed at making the chain of responses from recognition of the object (or other experience) to expression by vocal and kinaesthetic responses in speech or, as a non-speech symbol, by kinaesthetic means only (Manual, pp. 238, 241). However, elements of developmentally earlier types of teaching appear in the teaching activities. For instance, individual verbal associations may be built by the shaping of responses by verbal association in the "as if" technique (p. 191), "expressing wants and needs" (p. 200) and the "missing words" technique (p. 193, p. 208), while chaining is used for more elaborate responses such as "first commands" (p. 195), "words for making things happen" (p. 197) and "group activities" (p. 204).

As at Stage 3, the advice on "setting events" is that techniques of teaching communication should not be formal or inhibiting (matters which were discussed earlier, in Chapter Eight), but should take place in relaxed, everyday settings

in which opportunities arise for adults and children to exchange ideas spontaneously. Perhaps the only exception to this principle is that more formal techniques using imitation or modelling may be useful for achieving a clearer articulation of words (pp. 197-203).

At Stage 4, reinforcement will often be intrinsic in the act of speaking, though it may also occur from enabling the child to have control over others, as in "first commands" (p. 195) and "words for making things happen" (p. 197), or in satisfying one's wishes, as in "expressing wants and needs" (p. 200) and "group activities" (p. 204).

Stage 5 activities

| More advanced understanding of words | (5 activities) |
| Producing more advanced language | (6 activities) |

This stage was devised to extend the ideas of Stage 4 and therefore it is not surprising to find similar modes of teaching being used in its activities. For example, chaining is used in the "development of attention and memory" (p. 218), and successive approximation towards more refined responses is used for obtaining clearer and more complex speech in "two-word directions" (p. 225), "words for making things happen" (p. 227), "group activities" (p. 229) and "carrying messages" (p. 234). Successive approximation is also suggested as a technique which some teachers may find useful for teaching the meaning of attributes such as colour (p. 221). This reference to attributes also draws attention to a more advanced type of learning which becomes increasingly useful as the child's knowledge and skills develop. It is learning to use "concepts as classifying

rules":

"an individual who has acquired a defined concept has learned this kind of rule and is able to apply it to any instance of the class" (Gagne, 1985, p. 114).

Examples of making use of this type of learning are proposed in the activities for more advanced understanding of language which appear on pages 215, 218, 221 and 223 of the Manual, and will often be important in activities such as learning to deal with inaccurate information (p. 210) and with use of "yes" and "no" (p. 232).

Footnotes to this section

The discussion of teaching and learning has shown that the study's five stages of communication map conveniently onto Gagne's hierarchy. It is also important to recognise the cumulative nature of the concepts in a hierarchy. For instance, at any one stage, the skills of earlier stages are accessible by learners. Also, the nature of a hierarchy enables teachers to move back or forward to find the most suitable approaches for the pupils with whom they are working. Thus, if a child does not learn to chain a series of actions for producing interesting sights and sounds (Manual, pp. 123-124), the teacher is advised to move back to activities which require something closer to stimulus-response learning, such as the grasping activity on pp. 109-110. If this, in turn, is too difficult, then the teacher is advised to try some of the signal-learning activities such as those for stimulating the sense of touch (pp. 49-56). Similarly, teachers working with children who can produce the complex chains of activity required for

make-believe play with dolls and models (pp. 172-173), are
advised to move on to activities such as target nouns and
pronouns (pp. 176-178) where the children may be able to
show learning by verbal association.

There is no single theory of learning or teaching which
makes sense of the variety of ways in which people learn
(Wingfield, 1979, p. 7). The elements of Gagne´s hierarchy
which were considered above are a useful guide to
understanding the processes of learning, and the types of
teaching which may be matched to these processes, at the
five stages of the development of communication in this
study. However, the uniqueness of individual teachers,
pupils and circumstances will always mean that such
matchings are proposals rather than confident prescriptions,
and will not diminish the need for a skilful balance of
strategies on the part of the teacher.

<div align="center">

Coda
</div>

The problems of constructing the revised manual may have
made it seem that instructional materials for teachers are
of central importance in curriculum development. This would
not be a correct assumption. Therefore, Chapter Seventeen
has been written to set the process of curriculum
development in a broader context and to indicate the place
of instructional materials within that context. Chapter
Eighteen will then report on the use of the revised manual
in an outreach exercise which took place in some Lanarkshire
schools between 1981 and 1983.

<div align="right">

Chapter Sixteen
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CHAPTER SEVENTEEN

A FRAMEWORK FOR DISSEMINATION

Introduction

The presentation of materials which was considered in the previous chapter was an important practical problem in this study. However, it is one aspect only of the broad issue of disseminating ideas. Both curriculum development and professional development are concerned with teachers being exposed to new ideas, and being supported so that they adopt these ideas into practice. This chapter aims to show that curriculum development is not so much a matter of producing outcomes as it is a matter of setting a process of change in motion. A conceptual framework will be proposed to chart this process and thereby clarify the relationship between the dissemination and adoption of new ideas. As a consequence of the discussion, the place which the manual might have in enabling teachers to become participants in their professional development will also become clearer.

The word "development" is a useful starting point, for it serves at least two useful functions in this discussion. Most of the chapter will be concerned with how the concept of "development" gives guidance on matching strategies for the dissemination of ideas to teachers´ needs in professional development exercises. But first, we should consider how the idea of a developmental approach makes it easier to understand that there is a "process" as well as a "product" in professional development. The distinction

between "process" and "product" is important to make because "process" is a essential characteristic of the framework which will be proposed later.

Process and product

The idea that inservice training results in "products" may be illustrated by reference to an assessment procedure, the "Level of Use" index (Hall and Loucks, 1977). This index assigns teachers a rating on an eight-point scale depending on the degree to which they put the content of inservice programmes into practice. The product model is particularly well suited to training in which specific skills and knowledge are to be acquired and applied. Training in the use of a musical instrument, a behaviour modification procedure, a technique of medical treatment or the use of a power-tool are examples which fit the model comfortably.

The Hall and Loucks scheme is essentially that of progress through levels of competence, with increasingly generalisable skills being shown at each level. But this model does not fit happily in the context of curriculum development, for teachers will often begin to generalise the content of inservice training to their own circumstances early, if not immediately, in a curriculum exercise. For instance, the Schools Council "Science 5-13 Project" made no progress with its teacher workshops until the project team realised that they had to give the participating teachers ideas which they would respond to at their own level and in

the light of their own experience and needs (Ennever, 1980).

A product model may also create the illusion that the content of training is equally appropriate to all participants, that all are at a similar stage of professional development, and that all have the need, motivation and ability to incorporate it in their professional practice. These are not justifiable assumptions. The organisation of a professional development exercise must take account of the range of circumstances in which its teachers are working, and the variability of responsiveness of the individual participants. Consequently, curriculum development must be seen as a process, and this has implications for the dissemination of ideas so that they may be adopted into practice.

Process and development

One interesting proposal for investigating curriculum development as a process has been made by Eraut (cited by McCormick et al., 1983) who states that the professional development of a teacher is analagous to the process of Piagetian child development. The professional development of the teacher passes along a sequence of stages in which the teacher's arrival at any one stage is dependent on her having passed through the earlier stage(s). The idea that curriculum development is a process of individual development is the basis of the University of Massachusetts "Self-Knowledge Education Project" which produced a scheme

for classifying teachers´ growth of values about their professional experience (Brown, 1978). However, that scheme was itself based on an older system, the "Taxonomy of Educational Objectives in the Affective Domain" (Krathwohl, Bloom, Masia, 1964).

It seems reasonable to make a case for applying the affective taxonomy in the context of curriculum development. The aim of inservice training is that staff will adopt new practices. These practices will be evident in the classroom in forms such as choice of appropriate experiences for pupils, maintenance of records, ability of staff to discuss work with colleagues and parents, and a variety of other ways. But, in addition, accompanying such developments of skill and knowledge will be developments of "affect" which show themselves in the response of the individual teacher to the curriculum innovation. Affect is concerned with what people <u>choose</u> to do rather than what they <u>are able</u> to do. The taxonomy of Krathwohl et al. is a hierarchy of five levels at which affective objectives might be realised by the individual learner. Thereby, a learner passing up the hierarchy will ...

be aware of information (Level 1)

respond to information (Level 2)

develop values based on Levels 1 and 2 (Level 3)

organise values into a system (Level 4)

respond characteristically and consistently on the basis of the system of values (Level 5)

(After Krathwohl, Bloom, Masia, 1964, p. 35)

These five levels may be employed in the present study as
Tables 27 and 28 show. Examples of teachers´ affect are
provided for each of the five levels, and are linked to
guidance on the types of teaching and learning strategies
which may help teachers to find an appropriate place for new
ideas in their daily practice.

TABLE 27

Relationship of the affective taxonomy (Krathwohl et al., 1964) to professional
development in the teaching of early communication

Affective level	Definition - page numbers refer to Krathwohl et al., 1964	Examples from teacher development in early communication	Methods which might be used to enable this type of development
1 (Receiving)	Learner is willing to receive or attend to certain phenomena or stimuli (p. 98).	Awareness that communication is considered to have an essential place in the curriculum.	Providing information by issuing documents or arranging lectures for school staff.
2 (Responding)	The student is actively attending (p. 118).	Takes part in exercises in curriculum development.	Short inservice courses (or "workshops").
3 (Valuing)	Behaviour which is sufficiently consistent and stable to have taken on the characteristics of a belief or an attitude (p. 139).	Teachers show that they think that ideas proposed in curriculum development exercises are worth using in the experiences they create for their pupils.	Opportunity, and perhaps support, to put ideas of curriculum development exercises into practice.
4 (Organisation)	The organisation of values into a system which determines their interrelationships and any appropriate hierarchies among them (p. 154).	Teachers use ideas from curriculum development exercises to give direction to their planning and and delivery of experiences which will nurture children's ability to communicate.	Similar to Level 3, above, but probably involving a more sustained use of the ideas so that they become adapted to suit the needs and circumstances of individual teachers.
5 (Characterisation)	The values have a place in the individual's value hierarchy. (p. 165)	Has an understanding of communication which is integrated within his/her set of principles for making decisions about the curriculum.	Time is probably the main requirement (Krathwohl et al., 1964, p. 165). Generally, this level would not be a planned outcome of a curriculum development exercise (Table 28E has a fuller explanation)

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TABLE 28A

Relationship of Level 1 ("Receiving") of the affective taxonomy to professional dev-
elopment in the teaching of early communication

Sublevel of "Receiving"	Definition - page numbers refer to Krathwohl et al., 1964	Examples from teacher development in early communication	Methods which might be used to enable this type of development
1.1 (Awareness)	The learner will be conscious of a phenomenon, situation, object or state of affairs (p. 99).	Awareness that it is important to have a place for the teaching of communication in schools for pupils with severe & profound learning difficulties. Awareness of difficulty of finding appropriate lesson material for pupils with severe difficulties in communication. Awareness that the same teaching activities are being used with all groups of pupils in a class or school. (These examples were encountered in this study's Survey, i.e., Chapter Seven)	1 Supplying handbooks & syllabuses. 2 One-off meetings. 3 Visits to schools, libraries & resource centres. (These examples from Bolam, 1982, pp. 33-35) 4 Supply of books & kits concerned with teaching communication. 5 Directions from advisers, HMI, etc. that the teaching of communication is important. 6 The daily routines of work with pupils create awareness of their difficulties with communication. (These examples were encountered in the Survey - Chapter Seven)
1.2 (Willingness to receive)	Being willing to tolerate a given stimulus, not to avoid it... at best, to take note of the phenomenon and give it attention (p. 107)	Willing to attend group meetings at which development of the teaching of communication will be considered. Willing to discover new strategies for assessing communication. Amenable to the idea of finding activities which are suitable for the age and developmental level of individual pupils. (Examples from the fieldwork of Chapters Seven & Fourteen)	(As for "Awareness", above)
1.3 (Controlled or selected attention)	A specific stimulus is selected & attended to despite competing & distracting stimuli (pp. 112-3).	Notes communicative acts in video-tapes of adult-child interaction. Notes absence of sufficient items on developmental scales to describe activity of preverbal pupils. Expresses concern that teaching activities in communication may not be appropriate for specific pupils. (Examples from the fieldwork of Chapters Seven and Fourteen)	(As for "Awareness" above) Also, videotapes for training in observation & in techniques of teaching (e.g., Robson, 1980; McConkey, 1984).

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TABLE 28B

Relationship of Level 2 ("Responding") of the affective taxonomy to professional
development in the teaching of early communication

Sublevel of "Responding"	Definition - page numbers refer to Krathwohl et al., 1964	Examples from teacher development in early communication	Methods which might be used to enable this type of development
2.1 (Acquiescence)	Obedience or compliance... the student makes the response but he has not fully accepted the necessity for doing so (p. 119).	Attends school-based inservice meetings. Carries out request to log the utterances of a child who seems about to use words to communicate. Reads descriptions of communicative styles of children at each of the five ECS stages. (Examples from the fieldwork of Chapter Fourteen)	As in Table 28A, but tutors make more deliberate attempts to encourage teachers' responses by... ... meetings which encourage participation of members (e.g., Ennever, 1980) ... prescribing assignments or "consequated instructions" (e.g., Quiltich, 1975) ... having prescribed work supervised in the workplace (e.g., Quiltich, 1975).
2.2 (Willingness)	The learner is sufficiently committed to exhibiting the behaviour that he does so voluntarily (p. 125).	Searches school's stock of teachers' books for ideas to supplement those in inservice materials. Asks questions about qualitative differences between "utterances" and "sentences". Provides pertinent comments on the observations which other workshop members make about their case-study pupils. (Examples from the fieldwork of Chapters Fourteen and Eighteen)	As above, but including (if necessary) the use of group-leadership techniques which encourage the participation of all members (e.g., Rubin, 1978; Bolam, 1982).
2.3 (Satisfaction in response)	The voluntary response of the previous category is accompanied by a feeling of satisfaction, an emotional response, generally of pleasure, zest or enjoyment (p. 130)	Uses the vocabulary of behaviour modification to make "in" jokes. Shows distress that work being done with pupils in school will have little hope of being continued in their later life in a subnormality hospital. Prolongs teaching activity because she enjoys interaction with pupils. (Examples from the fieldwork of Chapter Fourteen)	As for previous sublevel.

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TABLE 28C

Relationship of Level 3 ("Valuing") of the affective taxonomy to professional development in the teaching of early communication

Sublevel of "Valuing"	Definition - page numbers refer to Kratwohl et al., 1964	Examples from teacher development in early communication	Methods which might be used to enable this type of development
3.1 ("Acceptance of a value")	A belief which is a consistently controlling force on behaviour. The person is both sufficiently consistent that others can identify the value in his behaviour, and sufficiently committed that he is willing to be so identified (p. 141).	Cuts out newspaper articles on teaching communication so that she may discuss them with colleagues. Seeks out information on non-speech systems of communication beyond the information given in inservice materials States that staff should make more use of out-of-school resources so that children may be encouraged to communicate spontaneously. (Examples from the fieldwork of Chapters Fourteen and Eighteen)	As in Table 28B, but incorporating techniques which make the innovation personal, e.g.,... ... meeting personal goals of participants ... developing materials ... individualising programmes ... making training specific ... reflecting the developmental stages of the participants (e.g., Duke, 1986; Worth and Worth, 1986).
3.2 ("Preference for a value")	Behaviour at this level implies not just the acceptance of a value to the point of willing to be identified with it, but the individual is sufficiently committed to the value to pursue it, to seek it out, to want it (p. 145).	Staff suggest an earlier start to the working day on inservice workshop days to ensure adequate time for discussion. Staff become involved in an analysis of behavioural and play approaches to a specific problem in the teaching of communication. Staff question the merits of established teaching practices such as eliciting imitated speech. (Examples from the fieldwork of Chapters Fourteen and Eighteen)	As for previous sublevel.
3.3 ("Commitment")	In contrast to preceding levels, there is a tension here which needs to be satisfied. The action is the result of an aroused need or drive. There is real motivation to act out the behaviour (p. 149).	Makes educational materials in own free time at home. Argues with school psychologist who assesses pupils' communication on the basis of a formal face-to-face psychometric test. Extends understanding of teaching communication by borrowing books & materials spontaneously from local resource centres. (Examples from the fieldwork of Chapters Fourteen and Eighteen)	As for previous sublevel.

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TABLE 28D

Relationship of Level 4 ("Organisation") of the affective taxonomy to professional
development in the teaching of early communication

Sublevel of "Organisation"	Definition - page numbers refer to Krathwohl et al., 1964	Examples from teacher development in early communication	Methods which might be used to enable this type of development
4.1 ("Conceptual-isation of a value")	Abstraction or conceptualisation enhance the value to provide a basis for its evaluation and interrelationship with other values (pp. 155-6).	Attempts to identify principles which have led to success in teaching pupils in her class. States how principles which have been identified by reflection on own and colleagues' experience may be put into practice in class. Notes how existing practices in class may be amended so that they are in keeping with new insights on the development of the curriculum. (Examples from the fieldwork of Chapters Fourteen and Eighteen)	As in Table 28C, but incorporating strategies which encourage teachers to begin and sustain changes in classroom practice, e.g.,... ... involving administrators (Worth & Worth, 1986) ... reflecting needs and professional concerns of teachers (Duke, 1986) ... focusing on specifics for translation into practice (Duke, 1986) ... establishing peer support system (Duke, 1986) ... viewing staff development as ongoing (Dist. of Columbia, 1986)
4.2 ("Organisation of a value system")	The learner has to bring together a complex of values, and to bring these into an ordered relationship with one another (p. 159).	Values the contribution of the insights of parents by ensuring that home-school diaries are filled in faithfully, and that parents' advice is genuinely sought when major innovations in school work are being considered. Develops monitoring system for recoding day-to-day teaching and pupils' response to it. Draws up timetables which ensure that the teaching of communication has an important place in the curriculum. (Examples from the fieldwork of Chapters Fourteen and Eighteen)	As for previous sublevel.

TABLE 28E

Relationship of Level 5 ("Characterisation") of the affective taxonomy to professional
development in the teaching of early communication

Sublevel of "Characteris- ation"	Definition - page numbers refer to Krathwohl et al., 1964	Examples from teacher development in early communication	Methods which might be used to enable this type of development
5.1 ("Generalised set")	A disposition which gives an internal consistency to the system of attitudes and values at any particular moment (p. 167).	Stops teaching a pupil to read by Bliss symbols when she sees that development of his purposeful communication and understanding are matters of higher priority. On failing to meet a teaching objective, she asks a colleague to observe her and suggest different ways of tackling the problem. Devises a menu of activities for each of a set of objectives so that pupils are not bored and so that the most motivating activities may be identified. (Examples from the fieldwork of Chapters Fourteen and Eighteen)	Strategies which assist the attainment of Level 4 objectives may be useful at this level also but, as Krathwohl et al. admit, "Rarely, if ever, are the sights of educational objectives set to this level... Realistically, formal education cannot reach this level, at least in our society" (p. 165). It is probably unwise to look for new strategies, as "maturity and personal integration" (p. 165) determine attainment of Level 5. "Time and experience must interact with affective and cognitive learnings" (p. 165). If there is a strategy for the curriculum developer, it is probably to ensure that the learner has the "time and experience" and opportunity to develop the levels of affect which characterise Level 5.
5.2 ("Characterisat- ion")	An internal consistency of attitudes, behaviours, beliefs and ideas (pp. 170-1)	Is consulted readily by colleagues who need a reliable sounding-board and source of ideas on curricular matters. Employers ask her to help organise inservice courses for teachers. Is asked to speak at conferences and courses for parents, teachers and other professional groups. (These examples are suggestions only as they are beyond the time-scale of this study)	As for previous sublevel.

Levels of affect revealed in practice

The structure of Tables 27 and 28 relates the various levels
and sublevels of the affective taxonomy to several contexts.
The entries in Column 2 are definitions based closely on
general examples of affect which appear in the original text
(Krathwohl et al., 1964). Column 3 contains examples taken
from the fieldwork of this study which show the development
of teachers' personal involvement in ideas about teaching
communication. In developmental terms, this process begins
at the lower levels of "awareness" and "responding"; the
examples provided are teachers' reactions to tasks (and
other situations) which they encountered in curriculum
development exercises. Column 3 then progresses to three
higher levels in which the examples of affect come from the
value systems of the teachers themselves and not simply from
their reactions to the efforts of curriculum developers. The
label "affect" applies to all five levels of the domain, but
these three higher levels show the existence of attitudes,
which have a much more permanent quality, according to
Krathwohl et al. The difference between the cell entries of
Level 2.3 and Level 3.1 in Table 27 may seem relatively
minor, but there is a considerable qualitative difference
between them in terms of the commitment and valuing which
characterise the attitudinal responses at Level 3 and above.

This qualitative difference between the upper and lower
levels of the taxonomy is important because it relates to
the picture of curriculum development which has emerged

throughout this investigation: teachers adopt innovation, make it their own by adapting it to their needs, and thereby control and make use of it rather than become its servants. That level of curriculum development requires the development of attitudes.

In passing, it will be noted that the progression of levels of affect through Column 3 shows that the taxonomy has potential for assessing teachers´ adoption of ideas from inservice training. This matter will be referred to again in Appendix F which outlines an alternative evaluation strategy to that which was used in this study.

Column 4 of Tables 27 and 28 puts in context the various ways in which the development of attitudes may begin and may be supported.

The early stages of supporting affective development
Probably few curriculum developers would be satisfied if their inservice exercises encouraged teachers to progress no further than the level of "awareness". Even the first sublevel of Level 2 (i.e., "Responding: acquiescence") contains little that is concerned with a clear move to the adoption of new practices. Yet the existence and the importance of these early levels of affect should be acknowledged for it may be necessary to catch participants´ attention and solicit their cooperation for the duration of an inservice exercise. Techniques which were used in this study to direct teachers´ awareness of the teaching of communication included the surveying of opinions and the

arrangement of preliminary meetings in the pilot study's schools. The manual which was outlined in Chapter Sixteen (now published: see MacKay & Dunn, 1989) also has a part to play at the first level of curriculum development, for its content may be used to make teachers aware of the phenomena and the teaching of early communication.

The "responding" which characterises Level 2 of the taxonomy depends on teachers having the opportunity to respond. There will always be some teachers sufficiently motivated to respond to new ideas with little or no encouragement, but there is no reason to assume that this motivation will exist in all. This is why opportunities for responding were incorporated in the revised manual in ways such as suggesting practical activities for pupils at each of the five levels of the scheme of communication, giving guidance on where to proceed when an activity was too difficult or when it became too easy, proposing methods of monitoring teaching, and so on. Strategies for supporting the development of "responding" include prescribing follow-up activities (McConkey, 1984), supervising these activities (Quiltich, 1975), allowing time for pacing the introduction and absorption of ideas (Stein, 1975), and the deliberate encouragement of participation (Brown, 1978; Bolam, 1982). All of these have been used to make inservice less concerned with the passive receipt of ideas and more with translating them into action.

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Supporting the development of new attitudes

There is also a place for written materials such as the manual in helping to produce the more enduring, attitudinal effects of curriculum development which are seen at Level 3 of the affective taxonomy and beyond. For instance, the next chapter, which deals with the use of the revised manual in an outreach project, gives examples of how teachers had used its ideas on communication as the basis for devising activities which suited the specific pupils with whom they were working. However, providing teachers with a manual in the hope that they will use it to develop their practice would be leaving too much to chance. Other means of supporting change have a part to play.

A brief scan of entries in ERIC (the Educational Research and Intelligence Clearinghouse) reveals that many hundreds of papers on curriculum and professional development are written every year. Many more appear in the list of abstracts concerned with the fields of health and social work. Therefore it is understandable that Woods and Cullen (1983), discussing inservice training for staff in services for people with mental handicap, should conclude that it is difficult to state categorically the forces which account for enduring professional development. However, they do suggest some principles which may increase the chances of development occurring. These include

> a commitment, by influential members of staff, to change in the direction taught in inservice workshops;

a means of monitoring whether or not change in the desired direction is being maintained;

interest from outside personnel;

personal interaction or the influence of colleagues. Similar advice appears in a variety of publications concerned with curriculum development (for example, see Crossland, Hasselbring and O'Brien, 1982; Duke, 1986; National ABE Staff Development Consortium, 1987; Orlich, 1984; Worth and Worth, 1986). It is particularly interesting to compare the conclusions of Woods and Cullen with the more extensive list of twenty-four "essential elements for change in teachers" which has been compiled by Corrigan (1986, pp. 102-4). In general, the two sets of points are in accord, but there is one exception. Corrigan has a "non-evaluative support system" at the head of his list, whereas Woods and Cullen say that an authority figure such as "a strong senior nurse" will help to ensure that junior staff maintain change. This difference in emphasis may reflect differences of philosophy which exist between hospital and school services for it discloses different views of staff development and autonomy, the status of inservice tutors relative to course participants, and the degree to which tutors may prescribe participants' practice after the course. But what matters here, in the context of the development of levels of affect, is that Corrigan sees successful curriculum development as a release of control over the use of new ideas from the inservice innovators (or their deputies, such as the senior nurse) to the

practitioners themselves.

From attitudes to practice

This delegation of control is a critical point in professional development. Eraut (cited by McCormick et al., 1983, p.37) talks of teachers becoming stuck at their current stage of professional development, and the transition from Level 2 to Level 3 would be a likely point at which this might occur. For example, teachers might enjoy the quality of presentations by tutors on an inservice course, and thus might participate willingly in tasks set by the tutors. Yet this does not guarantee any real change in their perception or practice of their daily work with pupils. The affective objectives from Level 3 onwards require a different quality of response, a degree of "personal investment" in the innovation so that it becomes part of them. Personal investment may be seen when teachers make efforts of their own to understand more about a development in professional practice by, for example, reading relevant literature, visiting teachers´ centres, discussion with colleagues, or attempting new lessons with pupils. Curriculum developers should therefore scrutinise the strategies they use with teachers to discover if they are encouraging this type of attitudinal growth.

Quiltich (1975) makes a useful proposal for transferring responsibility for professional development on to the participants themselves in an inservice exercise. He states that the changes in skills and procedures which the

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workshops are intended to achieve might have a better chance
of occurring if the tutors were to give the participants
"consequated instructions" (follow-up activities) which
related to these changes. This advice provides a bridge
between responding which requires to be supervised by
knowledgeable tutors and responding which is part of a
participant´s system of values. Tasks such as the
consequated instruction invite participants to make
innovation their own, by making the "organisational" type of
response which appears at the fourth level of the affective
taxonomy.

The consequated instruction is therefore one example of
support which may encourage staff to use inservice training
for their personal professional development. If it is chosen
well, it will help to match the content of training to the
needs of individual participants so that they take charge of
a process of personal development which suits their
abilities, circumstances and needs. It is in these
individual circumstances that we wish to see the results of
curriculum development in the three higher, "attitudinal",
levels of the affective taxonomy.

It is difficult to specify the exact type of support which
people require to advance from one level to another. This
will vary greatly on account of factors such as the variety
of needs and attitudes of individual teachers, the content
of training and the areas of application of the innovation.
Some circumstances will require the interaction among tutor

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and participants which workshop courses provide (Leeming et al., 1979, p. 332). Others may involve just two or three teachers working on some project together. Still others may involve one tutor and one teacher trying to solve a problem. And there will be occasions when all that the developing teacher requires is a set of good curriculum materials, or the time or guidance to pursue some reading or individual study on his or her own. In part, the skill of the curriculum developer lies in matching the media of training to these individual circumstances. But this skill is also a product of the ability of curriculum developers and inservice tutors to identify the current levels of responsiveness of participants and to provide encouragement and opportunity for them to build the system of values at Level 3, and the organisation of values at Level 4 which will let developments of curriculum be incorporated in their professional practice. It is probably wise to concur with the opinion of Krathwohl et al. (1964) that planning for learners' attainment of Level 5 is not often a realistic aim (see Table 28E and Krathwohl et al., 1964, p. 165), but the ground for this type of response may be prepared by encouraging attainment of the earlier levels by judicious use of the variety of strategies which are available to the curriculum developer.

The next chapter returns to the revised "Early Communicative Skills" manual. It examines, in the context of an outreach project, the role of the manual in helping

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teachers to adopt new practices, and other aspects of
professional development and of the dissemination of ideas
which have been discussed here.

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CHAPTER EIGHTEEN

OUTREACH AND EVALUATION

Introduction

An opportunity to evaluate the revised teacher´s manual (mimeo)
arose when the Manpower Services Commission (M.S.C.) agreed
to provide funds for an outreach project, the proposal for
which has been included in the dissertation as Appendix D.
Essentially, this project was used to introduce "Early
Communicative Skills" to a number of schools in Lanarkshire
by means of a case-study approach which was focused on
individual pupils. This outreach ran from the summer term of
1981 until the summer term of 1983 and was staffed by
teachers, recruited as project assistants, under the Special
Temporary Employment Programme (S.T.E.P.) of the M.S.C.

Nine teachers took part in the project, three in 1981-82
and six in 1982-83. All had recently obtained diplomas in
primary education from colleges of education, but had been
unable to obtain teaching posts. Three of the teachers from
the 1982-83 group moved to other parts of the country before
the end of their year on the project. As a result, the
evaluation of "Early Communicative Skills" is based on
information from seven teachers: the remaining six project
assistants and a teacher, permanently employed in one of the
outreach schools, who took a lively interest in the project
and volunteered her services for the evaluation.

The outreach project had a base at Hamilton College of
Education which was conveniently situated for access to many

special schools and which was willing to provide staff to
assist the nine teachers after the Early Communicative
Skills Project came to an end at the University of Glasgow.

Aims of the outreach

The outreach project had three main aims which were related
to issues of curriculum development which have been
considered in Chapter Seventeen. The first aim was to
evaluate "Early Communicative Skills" in terms of the worth
and accessibility of its ideas. Was the revised framework
easy to understand? Would teachers find their way around the
manual without difficulty? Did it give them useful
information? Questions like these had been raised in the
pilot study, and it was important to discover if the new
manual was a satisfactory response to them.

The second aim of the evaluation was more concerned with
the process of curriculum development. It was to form
opinions about the nature of assistance and supervision
which teachers might require to incorporate the ideas of the
new materials in their regular practice. Much time was spent
in the pilot study's workshops explaining to teachers what
had been written in the draft materials and directing
teachers to appropriate sections of the manuals. The new
manual had been written with considerable attention to its
text and format. Would it help teachers to adopt new
practices in teaching communication? Would this have
implications for the role of workshop tutor? These questions

are all the more interesting because the outreach teachers were far less experienced than any teacher or instructor on the pilot study, and were being asked to work under less direct supervision than was available on the workshops.

The third aim of the outreach was to introduce the revised manual to staff in the schools where the project assistants were based, thus providing the permanent staff with first-hand experience of the E.C.S. approach. The reaction of these staff to the materials would be interesting, though it was not intended that they should be asked to participate formally in the evaluation through the keeping of records or diaries.

Procedure

The project assistants were provided with an initial week of full-time training at Hamilton College of Education. This week was used to give them an introduction to the special education of children with learning difficulties in general, and to the "Early Communicative Skills" manual in particular.

They were also given help with preparing an assignment. This required them to plan and carry out a program of work, based on "Early Communicative Skills", for either two or three children with severe or profound learning difficulties in the schools where they had been placed. They were given assurance that this assignment was not seen as a means of assessing their competence as teachers, for they had already demonstrated that to the satisfaction of their colleges of

education. They themselves were not on trial, but the ideas and format of "Early Communicative Skills" were. They were also advised to avoid taking on too heavy a workload. They did not have experience of the field into which they were being launched. Therefore, neither college, university nor local authority staff expected them to provide more than some extra, individual attention for two or three children in the course of the year.

The outreach assistants were to work in their placement schools from Monday to Thursday each week, and were to return to Hamilton College on Fridays. The "day off" on Fridays was to comply with the M.S.C. requirements on the provision of continuing training. This training was supervised by Lachlan MacDonald from the Hamilton College staff and took a number of forms including seminars led by college lecturers or the writer, preparation of materials and programmes of work for school, videotapes on various aspects of special education, bringing case-records up to date, and visits to educational and other appropriate establishments.

Finally, the outreach teachers were briefed on the record-keeping which was to provide the information for the evaluation of the revised materials. The teachers were asked to keep records of work carried out with each of the children with whom they were working. They were also asked to reflect on their experience of work with the "Early Communicative Skills" materials in terms of the broad

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categories which are detailed in Table 29, below.

TABLE 29

Categories for project assistants' comments
on the value of "Early Communicative Skills"

1 **General impressions** on how convenient or inconvenient
   was "Early Communicative Skills". Comments on
   a formulating long-term aims
   b formulating day-to-day objectives
   c difficulties encountered in using the manual for
      day-to-day activities.

2 Specific remarks on the **layout** of the manual
   concerning
   a how it assisted understanding of the teaching of
      communication
   b any problems arising from the layout and
      suggestions as to how they might be overcome.

3 Specific remarks on the **contents** of any parts of
   "Early Communicative Skills" which were used with
   individual children, in terms of
   a ease of comprehension
   b usefulness
   c assistants' advice to new users of the manual
   d difficulties encountered in using the manual.

4 Comments made about "Early Communicative Skills" by
   permanent staff of the schools, or by visitors to the
   schools such as educational psychologists. Comments
   were noted on
   a ease of understanding
   b validity of the E.C.S. scheme of communication
   c usefulness of the manual to permanent staff
   d effects of E.C.S.-based teaching on the pupils.

Findings

The evaluation which follows uses the project assistants'

responses to the categories of Table 29 as its primary

source. The names of the seven teachers who provided this

information are not included in the text, for ease of

reading. Instead, they are identified by numbers which are

often in parentheses.

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General impressions of the manual

a Usefulness of the manual for formulating aims.

Overall, the manual was useful for advice on finding a
sense of direction and for finding specific things to do
with children. It helped teachers to understand why they
were carrying out an activity (1,7). It helped them achieve
a continuous programme with definite ends in sight (1).

Specifically, it gave sound advice on where and how to
begin work with children and on the selection of a
structured programme of suitable activities (1,5). This was
particularly important in the early weeks, for the project
assistants would have been at a loss without its guidance
(5). The manual also took account of the individuality of
the children through the five-stage framework and the
relating of the activities to it. The outline of aims (p. 9,
based on Table 21) and the list of activities (p. 26) were
useful reference points for rapid access to ideas once
teachers had become familiar with the manual.

Assistant 4 thought that the manual was useful for long-
and short-term planning. Assistant 7 was happy using the
manual for planning daily and weekly activities but felt
that long-term planning did not make sense in her school.
The difficulties of the children were so great and their
capacity for learning was so unpredictable that long-term
aims had to be formulated in very vague terms.

b Usefulness for finding day-to-day activities.

The manual was useful at all points in the process of

teaching. It was easy to formulate goals (1) as they were well laid out and explained (5). Programmes were easy to construct on the basis of these goals (1). And records of the activities which were carried out were easy to keep (1).

Four assistants specifically stated that the manual encouraged them to devise activities of their own for work with children. Assistants 1 and 5 said that the clarity of the goals of the activities enabled them to devise activities of their own which were directed at the same goals. With general principles established (Section a, above), their skills as teachers could be used with the children (5). Assistant 6 said that this applied particularly at Stages 3 and 4 in the activities for developing understanding. Conversely, Assistant 4 found it convenient to skim the manual to collect groups of related activities when she had an aim which she wanted to pursue.

There was one note of caution. Assistant 1 advised that teachers should not deviate too far from the manual lest they try to do too much and lose their sense of direction.

c Difficulties in using the manual for finding day-to-day activities.

This section has points in common with the sections dealing with the layout and content of the manuals, below, and therefore they have not been duplicated here. However, there were also several points which were concerned solely with the planning of day-to-day activities.

Assistant 5 felt that she needed more experience with

children who had severe learning difficulties though the manual did help her. Assistant 7 also found that it was difficult to set goals for children with the most severe learning difficulties. This teacher said that it was difficult to specify aims and objectives for them because their individual differences and their varying receptivity to teaching meant that a lot of work had to be unplanned and had to be a response to the individual children as each day found them.

Layout of the manual

a Extent to which the layout assisted understanding.

Overall, the layout of the manual seemed to assist understanding (1,5) and caused no problems (7). The manual did not need extensive study; it could be picked up and worked from without difficulty (4). Assistant 7 said that she was quite familiar with the scheme within a month of being introduced to it.

The Tables of Stages in the manual's Introduction (similar to Table 20 here) helped the teachers establish direction quickly and easily (1,5,7). The layout made the manual convenient to use through the grouping of, and within, sections with easily-understood headings (5,7). The extensive cross-referencing prevented uncertainty about deciding "what to do next" (1,3,6).

There was a clear, logical progression of ideas within the activities (1,7), with the aims well laid out and explained

(5,7). The detail of the explanation was helpful because it showed clearly the elementary level at which teaching had to take place (7). Having a page to an activity also made access to the ideas easy (7).

b Problems caused by the layout

Four perceived omissions were mentioned, and two of the manual's physical properties caused problems.

Omissions

> Assistant 7 felt that there should be more line-drawings in the Stage 1 section on "stimulation of movement".

> Assistant 4 noticed that page numbers had been omitted from some "Moving On" sub-sections.

> The index should have covered the teaching activities in greater detail (4,6). This comment is not surprising as Assistant 4 was keen on formulating aims of her own, then searching for activities to meet them.

> Assistant 7 would have liked sufficient blank space to be left after each activity for her to jot comments on the work she had carried out.

Physical properties

> Assistant 5 noted that daily use of the manual caused pages to become dog-eared and ripped out. She also said that it should have stronger covers.

Finally, Assistant 1 said that early in the project she would have liked the activities to have been colour-coded in the manual according to stage. But she eventually concluded that this would have created artificial divisions which did not characterise the true development of communication.

Content of the manual

a Ease of comprehension

Overall, the manual was easy to understand and interpret

(1,6). Its language was clear and simple (6,7). One teacher noted that it was easy to establish the children's stage of communication (7), by use of the revised five-stage framework. Assistant 6 said that she found the manual "self-instructional".

b Usefulness of the manual

b(i) Overview

The responses to this question fall into two categories. There was a general group which indicated that the manual was very useful, and various smaller groups of responses which noted specific areas of usefulness.

The general response was that the manual was useful because it was sound (2) and well-suited for work in the schools where the teachers were based (7). Children with whom the teachers worked benefited as a result of the manual's ideas (2,6), and other (non-project) children were helped incidentally (2). It was a source of immediate practical advice rather than a reference text (1,6,7) and would continue to be used in school after the end of the project (1,2).

The more specific areas of usefulness comprised aspects of the manual itself and the effects it had on teachers' work.

b(ii) Specific aspects of the content

Perhaps the most important aspect of the manual to be mentioned was the five-stage framework on which it was based. Having a specific stage to refer to was useful (1,6,7) and the manual made identity of the stages easy

(5,7). The process of assigning children to stages was considered to be more relevant to classwork than other systems of labelling used in the school (5). The stages showed what could and could not be done at each stage. It also helped in comparing and contrasting the individual abilities of children who were at the same stage (5). This allowed the teachers to match activities to individuals´ strengths, needs and preferences (3,4).

Advice on teaching activities associated with the stages was also mentioned. Activities matched to Stages 1 and 2 were useful for children with profound difficulties (4,7). Assistant 4 said that all Stage 1 activities, without exception, elicited a reaction from children. She also said that the greatest improvements were seen with children working at Stage 2 and 3 activities. Overall, the activities were suitable (5), well-graded and varied (6).

Several other features of the activities were commented upon. The suggestions for materials to use in the activities were useful (6). The references to activities which were more difficult and less difficult than the one currently being followed made sure that teachers were never lost for something to try (1,6). There was helpful, very specific advice on what to say to the child (7) and what words to introduce (6) when children were ready for "first words" teaching.

There were several favourable references to other aspects of the manual including

* the variety of material available at each level
  (1)

* supplementary reading (1,3), especially Finnie
  (1974)

* record-keeping (4,6)

* the use of "target words" (7)

* the "reassuring" section on pupil´s difficulties
  (6).

b(iii) A stimulus for teachers´ own ideas.

This section refers to ways in which the ideas in the

manual encouraged teachers to develop work of their own. The

adaptations may be very simple, such as using the

word-record (p. 28 -) as a sound-record with nonverbal

children (4). But more significant departures from the exact

text also appeared. The overlap of stages, which all

teachers referred to, was exploited to provide a wider range

of activities than that specified for the stage at which

children were working (7); activities from more than one

stage were therefore chosen for the one child. Other

teachers said that the manual was a useful springboard for

developing their own materials and activities (4,5), using

their more general skills as teachers (5) for finding

appropriate activities for individual children. Conversely,

equipment already in the school, but not referred to in the

manual, could be accommodated within the E.C.S. framework.

For example, the Pethna apparatus, a modified tape-recorder

which even profoundly handicapped children may activate

thanks to microswitches, was used to develop new Stage 1 and

2 activities (7).

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c Assistants' advice to new users of the manual

The assistants advised teachers not to feel themselves restricted to using activities specified for the stages at which their pupils were operating. Work from lower and (especially) higher stages might often be appropriate with a little adaptation (1,3,4). This is in accord with the observation that children may function at more than one stage at a time (1,4,5,6,7). This point is also made by McConkey in the St. Michael's House teaching tapes (McConkey, 1984), as it had been by Piaget (1969, p. 17). Yet teachers also advised following the advice in the manual closely because it spelled out the very basic level at which teaching had to proceed (5). It also reminded teachers not to attempt too much, and gave them a sense of direction (1).

d Difficulties encountered

d(i) Children's learning difficulties

Difficulties inevitably occurred because children with severe mental handicap have great trouble learning (7). Very specific, long-term plans cannot be made with confidence and there is no simple series of stepping-stones across a syllabus for them. Fatigue and illness may create barriers to learning (6), as may conditions such as autism (7). Consequently, teachers must be told that progress may be very slow, particularly if children have a profound degree of handicap (1,2). Goals, and steps towards them, should be at levels which are not far beyond children's current standard. Guiding children towards these goals should be

regarded as a long-term job rather than one which will be completed quickly. Stage 3 work aimed at developing understanding and at leading towards the production of first words may also be a slow process (4).

d(ii) <u>Problems with the content</u>

The use of photographs of children's families had been recommended (e.g., at p. 155 of the manual). However, details such as faces on these photo-graphs may be too small for the children to recognise (1).

One teacher found the Stage 5 work on "more advanced understanding" unclear (7). She had been placed in a school where the majority of children had profound degrees of handicap, and therefore she may have been attempting work which was too difficult for them.

The same teacher (7) felt that more interesting ways of introducing language were needed. Assistant 5 said something similar: she could suggest more activities at Stage 5 and beyond. Assistant 5 went on to say that she would like to have seen pre-reading and pre-number activities introduced. Two aspects of these observations require comment.

First, this teacher has drawn attention to the continuous nature of development and curriculum, with few clear divisions and with the flow of one level of functioning into another.

Second, perhaps we should be worried by her references to reading and arithmetic. The inference is that the children should be heading towards taking part in the traditional

school curriculum, rather than that they should develop communication for its own sake. The view of this inexperienced teacher contrasts markedly with that of one experienced teacher encountered in School C of the pilot study. The experienced teacher ended an interesting experimental reading programme based on Blissymbolics (Bliss, 1965), as opposed to written English, on the grounds that, although her pupil was making spectacular progress in a form of reading, time spent on this activity would be better spent on helping the pupil to develop better speech, listening and understanding. Reading gave a cosmetic veneer that disguised real needs. Attempts to foist a version of the standard primary curriculum on children with severe mental handicap may be subject to the same criticism.

d(iii)   Omissions

The perceived omissions of content from the manual fell into two loose groupings which may be called "staff-centred" and "activity-centred".

The staff-centred omissions included the need for a greater variety of activities so that trained staff would have a larger menu of activities from which to select (2). More information was needed on adapting the manual's ideas for blind and deaf children (4). Interestingly, the teacher who said so had herself adapted activities for pupils who were blind and deaf, and she could improvise well in all her teaching when she had a basic idea or sense of direction. Assistant 6 wanted a longer list of further reading, and

advice on how to obtain some of the American and unpublished texts. That final difficulty has been overcome because the three unpublished texts (McConkey, 1980; McClintock, 1981a; McClintock, 1981b) have now been published (McConkey and Jeffree, 1981; McClintock 1984a).

The activity-centred omissions concerned the need for advice on how to use sand- and water-play (1), the construction of simple friezes (1), and a greater variety of advice on "music and movement" (6). More physical play activities were needed at Stage 2 (7).

Assistants´ notes on observations made by other staff

a Ease of understanding

The consensus was that there were no real difficulties in understanding the manual. Nonprofessional staff, such as helpers and attendants, found it easy to understand (1). Instructors liked its straightforward approach (7) even if some of them found it awe-inspiring at first (5). Other permanent staff were surprised at its simplicity (7), with some of them commenting favourably on the freedom from checklists (5).

b Validity of the manual´s scheme of communication

No comments on the manual´s pragmatic model of communication were made specifically. However, the content was said to be "sound" by one teacher (2), and earned the commendation of educational psychologists (4,6) and a speech therapist (4).

c <u>Usefulness of the manual to permanent staff</u>

Instructors in one school saw nothing new in the manual and claimed that they had been doing all the suggested work for years - even although the project assistant saw no evidence of this in their daily practice (7).

That response was not typical. The manual was considered useful by untrained staff (2) and nonteachers (5). People with limited training soon overcame apprehension at the bulkiness of the manual (5) and could find at a glance which activities and materials met children's needs.

One of the most gratifying outcomes was a change in staff attitudes and behaviour. The local educational psychologist in one school decided to use the manual as a focus for a more general change in school practices (4). Weekly meetings were arranged so that all the staff could discuss programmes of work for the children. The manual gave the instructors a sense of purpose which grew into pleasure from the successes they were achieving with the children. They worked conscientiously on programmes produced at the meetings and recorded their results faithfully.

d <u>Effects on the children noted by the permanent staff</u>

Most observations concerning change appear in the sections of this evaluation based on the teachers' own work with children. However, one educational psychologist was surprised that the children had progressed so well in so short a time (6). Also, instructors noticed that children

became more alert and aware during the project, and vocalised more (7). That final observation was made in the school where instructors had said (see Section c, above) that they had been doing the same type of work for years.

e Implications for resources

Using the manual as a focus for teaching showed up gaps in resources. At a very basic level, the extra pair of hands provided by the teacher enabled more work to be done with individual children (2). In addition, the teacher´s knowledge of the manual was a valuable resource (2). This latter comment is especially interesting in view of the inexperience of the teachers in any field of teaching and the brevity of their training in early communication.

More specifically, the work recommended for children at Stages 1 and 2 emphasised the need for more speech therapists and physiotherapists to be available for giving advice as well as for treating children (1,2). Another option might be to provide teachers with training in elementary essential speech therapy and physiotherapy (1). These comments were in accord with the approval shown in Section 4b(i) above for Finnie´s very practical manual on "Handling the Young Cerebral Palsied Child at Home" (Finnie, 1974).

Summary of findings from outreach project

A more detailed reflection on the results of the outreach project will be included in Chapter Nineteen. However, a brief statement of them should be made here.

Three areas of interest for the outreach study were outlined earlier in the chapter. The first and third areas of interest concerned the reactions of project and permanent staff, respectively, to the revised teacher's manual. The observations of these teachers and other school staff are summarised below in Table 30 which is built on the areas of enquiry in Table 29.

Discussion of the second area of interest follows Table 30.

TABLE 30

Summary of findings from outreach project

1 General impressions	Formulation of aims "E.C.S." gave teachers a sense of purpose and helped them to see clear aims for individual children. Formulating objectives It was easy to relate objectives to the aims. "E.C.S." encouraged staff to devise objectives of their own in addition to those in the "activities" section. Difficulties Some staff found it hard to set goals for children with the most severe difficulties in view of their variable receptivity to teaching.
2 Layout of E.C.S.	"Assistance The layout helped understanding by enabling teachers to gain quick access to the information they wanted. The style of presentation made ideas easy to grasp. The developmental progression of ideas within individual sections of activities was helpful. Difficulties The manual would have been enhanced by some minor attention to presentation such as the inclusion of line-drawings, stronger covers and a fuller index.
3 Content of "E.C.S."	Ease of comprehension "E.C.S." was easy to understand and use without assistance from more experienced practitioners. Usefulness Generally, "E.C.S." was considered to be very useful. Specifically, teachers found the revised five-stage framework simple and helpful both for assessing children's level of development and for planning programmes of work for them. Teachers welcomed the wide variety of activities which had been suggested, and the advice on how to interact with the children. Teachers felt that "E.C.S." encouraged them to develop ideas of their own for work with the pupils. Advice to new users of "E.C.S." Teachers should use the framework to find purpose and direction. But they should recognise that pupils may be functioning at more than one stage at a time. This will influence their choice of instructional activities. Difficulties and omissions Teachers should be reassured that pupils with severe learning difficulties are likely to progress very slowly. Some may not progress at all, in which case the teacher should be concerned about providing appropriate experiences and not about accelerating progress. Some teachers required more advice for children at and beyond Stage 5, and for children with loss of vision and hearing. An even larger menu of instructional activities would be welcomed by some.
4 Views of permanent staff	Ease of understanding The manual was easy to understand and use. Validity of framework The revised framework was considered to be sound. Usefulness "E.C.S." contained helpful ideas and was a useful sourcebook for school-based in-service training. Effects on children Children with profound difficulties became more alert and aware.

The second area of interest concerned support for teachers during the process of curriculum development, with particular reference to the role of workshop tutors. One important finding from the outreach project was that the revised manual provided much more direct support than did the earlier set of draft manuals. Teachers could find ideas in the manual which were relevant to their needs in teaching communication, and would put these ideas into practice. This is evident from the teachers´ comments reported above, and from the fact that their enquiries at seminars and on the writer´s visits to their schools were not about the written materials. For instance, Assistant 6 asked for information on the rare Cornelia de Lange syndrome which is associated with a characteristic type of vocalisation (Fraser and Ozols, 1981, p. 27). Information as specific as this did not have a place in the E.C.S. remit, though it is the type of information which a tutor could be expected to obtain, or which might be held in an information bank. Other assistants asked for advice on the specific problems of individual pupils. No single manual could be expected to give comprehensive details for every individual case and, therefore, we see that there may be a role for a tutor either as a provider of information or as a sounding-board for teachers´ opinions. The latter of these roles might, of course, be fulfilled by colleagues at staff discussions in what Skilbeck calls the "problem-solving school" (Skilbeck, 1984, p. 275). We have also seen, above, that the manual

became the vehicle by which one educational psychologist was able to introduce school-based in-service training in Assistant 4´s school. This school had been established years before by one of the voluntary agencies to provide "care and protection" for children with profound difficulties, and that was all it continued to provide, despite the Education (Mentally Handicapped Children) (Scotland) Act 1974, until the arrival of Assistant 4. She and Assistant 3, who was placed in a school with a similar ethos, soon found themselves coordinating programmes for all the children in their schools despite their inexperience and despite the advice they had been given on not accepting too heavy a workload. They both helped to create a climate in which permanent staff did not see professional development as a threat or the need for in-service training as an admission of inadequacy. As a result, the local educational psychologist was enabled to step into Assistant 4´s school with a programme of staff training.

Thus the outreach study suggests two conclusions with reference to support for teachers in the process of curriculum development. The first is that there may be a place for workshop tutors in a quite directive, leading role in schools where there is little tradition of staff or curriculum development, or where a specific, new set of skills has to be learned. The second conclusion is that there may still be a place for a tutor as a sounding-board or facilitator in schools which have a problem-solving

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outlook. This view would be supported by Stenhouse's contention (1975, pp. 186-190) that there is a "critical" role for a local authority advisory service in helping teachers to adopt innovations. However, it is also important to recognise that the provision of a supporting tutor is not a prerequisite of professional development. We have seen in the outreach project that it may be possible to dispense with the role of tutor when teachers are well-motivated, and when the source materials which they have been given are easy to understand and contain sufficient relevant ideas for them to direct their own development. The examples in the previous paragraph show that Assistants 3 and 4 had adopted practices of their own and had influenced the practices of their colleagues in ways which may be classified by the "Organisational" label of the affective taxonomy (see Tables 27 and 28d). Their comments indicated that the substance of their classwork had its roots in the ideas of the revised manual. However, the development of new practices in themselves and in their colleagues could not be attributed wholly to the manual. Other factors were exercising a strong influence: the need to appear competent to older, more experienced colleagues; the hope that success on the project might increase the assistants' chances of permanent employment with the local authority; or, simply, the desire to improve the quality of curriculum offered to their pupils. The experience of the outreach project enabled the assistants and their full-time colleagues to make the ideas

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of the manual their own; and this process of personalisation
was fundamental to their curriculum development and
professional development.

Footnote on evaluation

It is acknowledged that the evaluation in the outreach study
concentrated on a relatively narrow area: the usefulness of
the new written materials, and how they were adopted in the
schools. The study did not take the opportunity of examining
other aspects of innovation such as its effects on the
staffs and the pupils in the schools. Consequently, a
proposal for the systematic evaluation of these issues has
been outlined in Appendix F. The proposal is based on
Skilbeck's model of curriculum development (Reynolds and
Skilbeck, 1976) as that model is a convenient way of
investigating the processes and products of innovation.

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CHAPTER NINETEEN

DISCUSSION

Introduction

The study has been concerned with many different themes
which relate to the place of communication in the curriculum
for children with severe and profound learning difficulties.
This final chapter will attempt to draw them together within
three major areas of interest.

The first area is the development of staff and curriculum.
The pilot study of Chapter Fourteen and the outreach project
of Chapter Eighteen both provided examples of the
professional development of staff and the development of
curriculum progressing hand in hand. To what extent is it
possible to draw conclusions about principles and procedure
which will help teachers to find purpose in their work and
thus develop practices and understanding which will benefit
their pupils?

The second area is communication itself. What has the
study shown about the nature of the subject and how it may
be understood more clearly?

Finally, we shall return to the group of pupils who are
described as having "special educational needs" as a result
of severe and profound difficulties with learning. Has the
study helped to clarify our understanding of the concept of
their needs in the context of the teaching of communication?

The development of staff
and the development of curriculum

Preamble

Early Communicative Skills was an exercise in curriculum development. Its aim was to investigate the place of communication in the curriculum for children with severe and profound learning difficulties, and to develop that area on the grounds that it was an important one. Early in the study there appeared a theoretical view of communication which has influenced the remainder of the discussion. This was the pragmatic approach, which is based on the assumption that communication is a purposeful activity carried out in interaction with other people. The theory was developed by showing that it was applicable at different stages of children's development, and that it was possible to ally it to teaching activities which might be useful in schools. However, in Chapter Six there was a reference to William Reid's (1978) contention that a good theory will not translate into good practice if we fail to take account of the "prevailing context" in the schools. We may have good ideas for development of an area of curriculum, or even the whole of the curriculum. But development implies a change, even if it is just growth, from one state to another, and the process of change will affect teachers as well as the curriculum and the pupils. Consequently, we must recognise that curriculum development and staff development go hand in hand. The Early Communicative Skills Project encountered two

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principal areas of interest under which its findings may be grouped. These are the **context of development** and **resources** for development. They will now be considered in turn.

The context of development

Ƒirst steps Daily practice is the context in which a curriculum will stand or fall. In his last book, Lawrence Stenhouse wrote that the problems of educational research

> "are selected because of their significance as
> educational problems; that is for their significance
> in the context of professional practice. Research
> and development guided by such problems will
> contribute primarily to the understanding of
> educational action through the construction of
> theory of education or a tradition of understanding"
> (Stenhouse, 1983, p.190-1).

Early Communicative Skills originated in the very simple belief that learning to communicate is an essential component in the curriculum for children with severe learning difficulties. It then proceeded in a fashion which was in accord with Stenhouse's advice above by attempting to determine the significance of communication in the context of professional practice by means of the survey of opinions. The outcome of that exercise was a revision of the original remit of the project so that it might take account of teachers' concern for the wide spectrum of children whose level of communication was at or below the two-word stage. It also had to take account of unforeseen matters of concern such as how teachers might come to terms with systematic teaching, and for specific advice which would enable staff to work more effectively with certain groups of children such as those with profound handicap and those who were

severely withdrawn. This was a problem of product development. The prototype product did not quite meet the needs of the prospective customer in the schools, and therefore it had to be modified.

An important first lesson, then, is to discover teachers' own perceptions of their work, and their needs and constraints in it. We should then respond with developments which attempt to meet their needs and which take account of the daily practice in which they will occur.

Making the innovation suit the individual This part of the discussion begins at the point at which a set of ideas about the curriculum had been developed, and materials for translating them into practice had been prepared. Their preparation had taken account of the theory of the subject and the practicalities of work in schools. But this preparatory development occurred in consultation with a relatively small number of practitioners. What guidance did Early Communicative Skills provide on the matter of making the ideas accessible to as wide a range of practitioners as possible? One principle is that staff should be provided with good source materials, a matter which will be considered later in the discussion. A more basic principle is that staff should be provided with ideas which let them adapt the curriculum to suit the needs of individuals as far as possible. And the individuals in schools are teachers and pupils.

It has to be recognised that a focus on the **individual**

pupil in education has caused some writers concern. For instance, Apple sees it as "a powerful emotive force" for extending social control over pupils and teachers (Apple, 1978, p. 503). This concern is particularly relevant to special education in view of the statutory requirement in the U.S.A. to produce Individualised Educational Programs (I.E.P.s) on all handicapped pupils annually. Apple's concern was an ethical one, but Kliebard has also voiced concern about a simplistic pseudo-practical approach which reduces individualisation to "the speed by which one makes his way through the standard work units" (Kliebard, 1977b, p. 621). Other writers are less gloomy. With regard to pupils, Brennan has made a useful distinction between an "individual curriculum" in which, crudely, each pupil has his or her own timetable, and an "individualised curriculum" in which

> "from all the curriculum resources of the school a selection is made of the objectives, curriculum content and learning experiences most calculated to meet the identified curricular needs of individual pupils" (Brennan, 1985, p. 179).

The problem of individualisation for pupils was tackled in Early Communicative Skills by several means. First, staff were given an overall sense of direction towards sources of aims by being shown how to describe individual pupils in terms of the five-stage framework of development of communication and its elaboration in the first of the core sections of the manual. Second, staff were provided with menus of activities in the intention that they would find

advice on content and techniques of teaching which would be appropriate for the individual children whom they were working. Third, we saw in the report of the outreach project that these ideas encouraged staff to devise approaches of their own which were designed specifically for the individual children in their charge.

Thus, the conclusion with regard to the children is that a development of curriculum may be made appropriate for them as individuals if there is a place for them in the structure of the area of curriculum being developed. There should also be a sufficiently large number of examples of instructional activities so that teachers may find that the development is appropriate for most or all of their pupils. Finally, teachers should be enabled to acquire sufficient grasp of the essence of the area of development for them to relate it to the individuals whom they are teaching.

Perhaps the overall conclusion from Early Communicative Skills regarding the **individuality of teachers** in curriculum development is that development will occur if they are enabled to invest part of themselves in it. This means that they should be able to acquire a faithful understanding of the devlopment in their own terms, and they should be able to use or adapt the development in their own work. The reports of the outreach project and the reaction to Table 21, mentioned in Chapter Fifteen, suggested that the five-stage framework itself was sufficient guidance for some teachers to formulate aims and match them to teaching

activities without further assistance. Others were happy to have a considerable menu of examples of activities which were related to aims, but they used them as a means of increasing their understanding of the underlying concepts so that they could then add examples of their own which were more appropriate to the setting in which they worked. Still others found that the third section of the manual's core, dealing with children's problems of communication, enabled them to respond to difficult behaviour, and that the process of overcoming it enabled them to see the teaching of communication more clearly. It has been said that this type of development through personal investment gives a teacher the same sense of pride that we may feel in adding our own egg to an otherwise prepared cake mix. A few staff encountered in the project were content to add their egg at the elementary level of making their own selection of activities for their pupils. But some went much further by mixing ingredients from different packages and by adding ingredients of their own because they felt that this was necessary to make the ideas of Early Communicative Skills work for them.

Perhaps the most heartening examples were Assistants 3 and 4 who had come to the outreach as unemployed, inexperienced primary teachers. Both, as Chapter Eighteen relates, acquired such a firm grasp of the Early Communicative Skills framework that they found themselves being delegated to coordinate the teaching of communication for all children in

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their schools. Their reputation spread beyond the schools, with the result that they were offered permanent posts in a newly-opened school at the end of the outreach. Originally, they were appointed to this school at the lowly level of "unqualified instructor", but thanks to the recommendation of colleagues and the ingenuity of an education officer, they were eventually upgraded to the status of "teacher". They had certainly developed professionally. But they had also been responsible for the development of curriculum, because the place of communication in the curriculum of the schools where they taught was more fully established and clearly understood.

Material and human resources

Written materials   The manual, "Early Communicative Skills", was the principal tangible product of the project. It is tempting to argue that the five-stage framework of communication was a more important outcome, for it was the key idea on which the manual was based and through which, for example, the professional development of Assistants 3 and 4 could be seen. But it must be recognised that good source materials have a place in developing people's understanding of a topic.

> "Of course we need instruction. And text-books too.
> ... Two parallel activities need to be pursued:
> instruction, which gives us access to conclusions
> which represent in simplified ... form our best
> grasp of a realm of knowledge and meaning; and
> learning by inquiry or discovery, which enables us
> to understand how to utilise such ... knowledge, to
> assess its limitations and to develop the means of
> pushing outward beyond these limitations"
> (Stenhouse, 1983, p. 183).

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The nature of the content of instructional materials, and the purposes for which teachers read, are also important matters to consider, as was seen in Chapter Sixteen. The three core sections of the final manual consist of various units of advice, each of which is laid out according to a standard format. The process of information mapping was used to draw attention to regularities in the development of communication, in instructional activities and in children's problems. This process simplifies access to ideas because specific types of information appear at points in a sequence which are predictable once the reader is familiar with the format.

Readers who wanted very direct guidance, and readers who were happy to work from guidance in outline, all found help from having a menu of examples of teaching activities in the area of communication in which they were working. Quantity of examples was therefore an important factor in assisting their development. But so was the fact that the ideas had been selected because they were useful in the pilot study and other fieldwork, and therefore had a ring of authority which came from practice. Finally, the materials were written in note-form so that staff did not have to spend time deciphering long instructions and, therefore, so that they might find quickly the information which they required.

Information bank   There have been references at various points in the study to teachers asking for information which was not in the draft or the final manuals. Examples of the

diversity of this type of information include addresses of organisations, particular congenital conditions of children, further reading and educational equipment. The need for such an extensive source of information was apparent from the time of the initial survey of opinions. The proposal of a bank for holding this information received complete acceptance in the survey, and there is little doubt that it would be used.

This assertion can be made with some confidence in view of the report of the Special Educational Needs Database (S.E.N.D.) Project which has run at the Scottish Council for Educational Technology since 1983, as a means of coordinating the collation and transmission of information on the use of microcomputers in Scottish special education (Martin, 1986). The database was originally established as an independent network, but since early 1986 it has been made more widely accessible as a result of being transferred to the Prestel system. Martin's report on S.E.N.D. makes it clear that the database has an enthusiastic following among its regular users who are based in schools, colleges, teachers' and child guidance centres, and adult training centres throughout Scotland.

Despite the enthusiasm, the S.E.N.D. report raises issues which are relevant to this study. One of the most frequently accessed sections of the database is the one dealing with communication. Yet a search through that section will reveal very little which is relevant to the level of communication

considered by this study, apart from a few programs dealing with perception and cognition. Even then, the software is often not very attractive. This is neither the fault of S.E.N.D. nor that of the program designers. Instead, it results from the fact that communication is a complex, interpersonal and purposeful activity which shows no sign of being able to be taught at early levels of human development by a computer. Thus it seems reasonable to suggest that S.E.N.D. would be useful to a wider range of teachers if it were not restricted to holding information on microtechnology. Information on instructional activities, techniques and equipment should be provided.

The format of "Early Communicative Skills" provides an example of how this information might be organised, for the information maps in which it is laid out are an outcome of research on the computerised presentation of information. And MAVIS, the medical audiovisual aids information service at the University of Dundee (Barker and Harden, 1979), provides a working example of a database which has a structure which would seem to be readily adaptable for use in special education.

Parents   Parents are invaluable banks of information on their children, yet they have been mentioned only rarely in this study on account of the project's focus on school-based development. However, several parents were visited at home in the course of fieldwork for the project. The account of a home visit to one mother provides two examples of the unique

and invaluable information which parents of all children
hold, and which is relevant to the staff of schools.

The mother and this writer were discussing a selection of
"target words" which the school staff thought her daughter
should learn to understand. The mother said that this would
be a waste of time as her daughter understood them already.
However, she was able to suggest some other words which
would be worth learning. And there was more. The daughter in
question was so severely visually handicapped that she was
probably unable to distinguish light from dark, and
certainly could not detect objects visually. However, her
mother provided the intriguing information that she would
hide things from her parents, under her bed or under her
pillow. She had a highly developed physical sense of
concepts of position which a sighted person would normally
understand in terms of vision. This is the theme which H. G.
Wells pursues in a short story in which he confounds the
adage that "in the country of the blind, the man with only
one eye is king". This girl has also provided us with an
interesting insight into the replacement of a defective
sensory mode by an effective one in the building of the
cognitive schemes of the sensorimotor stage.

Neither of these pieces of information would have been
obtained from the daughter at school because she had
withdrawn, autistic behaviour. How much else would remain
unknown until those schools, which in our survey seemed to
be wary of parental involvement, instituted a policy on

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home-school links? Of course, the purpose of these links

goes beyond a one-way flow of information. Hellier has a

more extensive list including

* facilitating the education of children
* providing parents with an outlet for pent-up
  frustration
* providing parents with information and
  support
* help in problem-solving in meeting children´s
  and parents´ needs
* providing mutual support among parents
* facilitating professionals´ understanding of
  parents´ and children´s needs

(Hellier, 1983, p. 411).

There is certainly cause for concern. In his review of

recording procedures for children with special educational

needs in Glasgow, Johnstone (1985) reminds us that the

Warnock Report "stresses that parents should be regarded as

partners with professionals in helping their children, and

should be given information, advice and practical help". Yet

he has to conclude that

"the practice of Recording procedures seems to fall
radically short of this. Further study is needed as
to why many professionals find the practice of
partnership with parents so difficult"
(Johnstone, 1985, p. 185).

There are also grounds for hope, as visits to schools will

reveal open-door policies by which parents are welcome not

as passive, well-behaved recipients of a privilege (Barton

and Moody, 1981, p. 142; Tomlinson, 1982, p. 112), but as

partners who have a right to be immediately involved in

their children´s education. It is probably wise to be

concerned that the practice of partnership with parents is

as difficult in some schools as it is in the recording

system, but it would be illuminating to study examples of active, working partnerships also. This would have interesting implications for mainstream as well as for special education.

Workshop tutors The workshops of the pilot study were based on the Hester Adrian Centre's parents' workshops which were led by tutors who had a clear role as leaders of discussion and teaching groups. Of necessity rather than by design, the conduct of the workshops of the outreach project was latterly determined by the group of teachers themselves rather than by a tutor. But it was also noted in Chapter Eighteen that the tutor's role in the outreach workshops was different from that in the pilot study because staff were provided with more lucid curriculum materials. The teachers in the outreach project were inexperienced and were not members of the staff of the same school. It is worth taking the matter of tutors a step further by considering what happens to this role when a group of experienced teachers take responsibility for their own development of curriculum.

The role of the tutor in this third type of situation is similar to that which Stenhouse sees for the schoolteacher in "inquiry-based teaching". The analogy seems fair as Stenhouse tends to consider the teaching of pupils and the teaching of teachers in the same light. More importantly, this role demands a certain attitude in both pupil- and teacher-education. The teacher or tutor will feel secure in inquiry-based work

"only if he is research-minded to the extent of
having an inquiring habit of thought. It will be his
task to interpret his claim as a man of knowledge to
support his capacity to manage an inquiry towards
understanding, "to legitimise the search". He must
not diminish the importance of that search by
suggesting that it can be avoided by appeal to him
as an authority who can warrant knowledge"
(Stenhouse, 1983, p. 186).

This role contrasts completely with that of the role of the

tutor-as-expert which may be appropriate when some specific

knowledge or skill has to be imparted. For example, expert

tutors seem to be needed for teaching the skills of

behaviour modification in E.D.Y. courses (Foxen and McBrien,

1981) or for teaching teachers to use the Uzgiris and Hunt

scales, as Hellier recommends (Hellier, 1983, p. 400). But

it is wise to be wary about this expert approach in the less

absolute area of developing curriculum.

"All too easily philosophers, psychologists and
sociologists, whose researches are problematic in
their own fields, become - only sometimes against
their wishes - authorities in courses for teachers.
...
An alternative to the constituent disciplines
approach is to treat education itself ... as the
subject of research. ...
The problems selected for inquiry are selected
because of their importance as educational problems;
that is for their significance in the context of
professional practice. Research and development
guided by such problems will contribute primarily to
the understanding of educational action through the
construction of theory of education or a tradition
of understanding. Only secondarily will research in
this mode contribute to philosophy, psychology or
sociology".
(Stenhouse, 1983, p. 190-1).

In a current school-based curriculum project the staff of

the school use the writer as a sounding-board and as an

obtainer of information, but the staff themselves are in

charge of the area of curriculum which they are developing.
They have decided on a theme which they think will interest
their pupils, who are aged between fourteen and eighteen
years and who have severe learning difficulties. They decide
how the chosen theme may be used to meet the aims which they
have identified for their pupils as a group, and for
individuals in particular. They work out the implications of
their aims for the deployment of staff, the resources which
will be needed to make the programme work, and their means
of evaluation. As a result of their enthusiasm they have
grown into a "problem-solving school" which organises its
own development of curriculum along essentially similar
lines to Skilbeck's progression: analysis, defining
objectives, designing the programme, implementing the
programme, and evaluation (Skilbeck, 1984, p. 231).

But such is the hierarchical nature of education that the
head-teacher of this school recently found herself being
told by her local educational psychologist, who does not
take part in curriculum planning meetings, that she would
have to abandon the newly planned development on the grounds
that it was diverting the pupils from learning self-help
skills such as dressing, grooming, shopping and independent
travel. She telephoned the writer when this happened to ask
for reassurance that what she and her staff were proposing
to develop was acceptable after all. Or, in Stenhouse's
terms, she needed someone to "legitimise the search". Many
instances of this type of request for permission to follow

one´s own conviction occurred during the pilot study and the outreach project, and it is an aspect of a tutor´s role which should not be ignored. In many cases a "problem-solving school" might legitimise its own development, but there may still be a place for a more disinterested sounding-board when the school has difficulty resolving an issue internally or, as in the case above, when teachers´ proposals have come under attack, so that they need help to express their curriculum and the convictions on which it is based.

Communication

Communication for life

In Chapter Three, it was noted that the Bullock Committee (Committee of Inquiry, 1975) rejected its original remit of reporting on literacy and moved instead towards the broader concept of a "language for life". Throughout the study, there is a case for broadening this concept into one of "communication for life". The reason for requiring a broader remit is that children at the lower stages of the Early Communicative Skills framework do not understand spoken language. However, this does not deny them the ability to share ideas with other people.

The pupils certainly have ideas, for it has been known since the time of Piaget´s earliest descriptions of the sensorimotor stage that children have schemes of behaviour which show that they act purposefully, and therefore that

they have ideas. In Chapter Fifteen a case was made for the blurring of the categories of cognition and communication on the practical grounds that actions performed in interaction with other people are difficult to distinguish from communication. In addition, there was theoretical support for this stance in the psycholinguistic research of Dore (1973) and Bates et al. (1975) who found communicative functions in children's preverbal actions, and in the work of the Russian developmental psychologists Luria, Vygotsky and Markova who see no useful theoretical dichotomy between thought and language.

The five-stage framework of Early Communicative Skills accepts the fusing of thought and language at its two lower stages. Thereafter, "communication for life" and "language for life" come closer to being equated. The interrelationship of thought, language and communication is interesting to explore. But this study is set in the context of the curriculum and therefore it may be more interesting and important to examine how the study has clarified the "for life" part of the label.

First of all, it must not refer to a life with a status which Downie and Telfer compare with that of a lower species (Downie and Telfer, 1980). Instead, people with mental handicap should have a quality of life which, in Wolfensberger's (1972) terms, is as normal as possible and is achieved by means which are as normal as possible.

But we cannot ignore the fact that mental handicap

restricts the powers of reasoning and communication of the people who are affected by it. Therefore we must face the problem of balancing respect for persons with respect for their difficulties. A philosophy of curriculum which seems to achieve this balance of principle and practice is D. J. Power's (1981) "ecological validity", which was introduced in Chapter Two. An ecologically valid curriculum is one which is "relevant and true to the children's lives within their own social milieux" (Power, 1981, p. 436). What implication does this principle have for the teaching of communication?

Chapters Three to Six of the study examined the scope for ecological validity in the teaching of early communication and concluded that it was an appropriate approach if communication was considered from the standpoint of pragmatics. Pragmatics incorporates three important qualities. The first quality is that communication is functional and purposeful; it is "for life". The second quality is that it is carried out in interaction with other people, for it is concerned with the sharing of ideas. The third quality is that acts of communication are spontaneous, and are often unpredictable and unique.

The framework of Early Communicative Skills was built on the basic functional quality of the pragmatic outlook. The teaching activities which grew out of it were attempts to enable teachers and instructors to help children combine the functional, interactional and spontaneous qualities of

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communication in ways which were appropriate to the children's developmental levels, and which were "relevant and true" to their lives. The work of teachers and instructors during the pilot and outreach studies suggested that the framework, the activities and the other guidance of "Early Communicative Skills" (mimeo) enabled them to find direction in their own daily search for ecological validity. Independent support for "Early Communicative Skills" has also been provided by teachers and instructors who were interviewed during the fieldwork for "Learning Together", the investigation carried out by the Consultative Committee on the Curriculum into the curriculum in schools for children with severe learning difficulties (C.O.S.P.E.N., 1984).

"Learning Together" also reported (p. 69) that some schools were using the five-stage framework as part of their assessment battery. This was an unexpected outcome of the E.C.S. Project, for there was no intention to turn this "personal preference (decently veiled) into a public tradition" (Jenkins, 1980, p. 219). But perhaps this outcome could have been predicted, as staff in both the pilot and outreach studies were attracted to it as an assessment device which enabled them to establish a simple and useful starting point from which to plan a pupil's programme of work. It seems fair to conclude, therefore, that teachers and instructors consider communication to be an essential area of the curriculum, and that the terms in which it was

presented in "Early Communicative Skills" rang true to their experience.

Directions for further study

There are some aspects of communication which, in retrospect, merit more attention than that which was given to them in this study. In particular, three aspects should be considered as they are relevant to discussion which has taken place earlier in the dissertation. These aspects are the nature of the relationship between the pupils with profound handicap and the adults who work with them; the use of hand-signs in communication; and the development of communication beyond the two-word stage.

Relationships In "Early Communicative Skills", the principal aim of teaching children with the most profound degrees of handicap is to make them aware of their surroundings. This awareness is the source of thought and communication. The responses of Assistants 1, 2, 3 and 4 on the outreach project indicated that they found "Early Communicative Skills" helpful as a source of activities which enabled them to work purposefully with their pupils. The "Activities" section of the manual contained some advice on how staff should interact with their pupils so that they might promote the growth of relationships in which learning might occur. But the approach was primarily cognitive, linking with the sensorimotor schemes of Stage 2. Perhaps more attention should have been paid to the matter of relationships. Hellier (1983) considered this to be of great

importance in his "ecological view" of the needs of children with profound handicap. Furthermore, he has provided some guidance on how a commitment to a systematic use of relationships may be translated into practice by the use of Trevarthen's "macroanalytic system" for analysing mother-infant interactions (Trevarthen and Marwick, 1982). However, the problems of translating this approach into daily practice are clear in Hellier's thesis (Hellier, 1983, p. 216). The macroanalytic system consists of more than two hundred categories of interpersonal behaviour which may be grouped within fifteen sections which, in turn, may be grouped within five "functional areas". The system is complex, reflecting the complex nature of interaction itself. In addition, Hellier used the system in a setting which, for the purpose of his dissertation, had to be a scientific laboratory rather than a classroom. To translate the interesting area which he has uncovered into the practical day-to-day life of a school is no easy matter. It would be worth attempting, for Trevarthen's focus on "interpersonal development", though complex, is at least as germane to the development of children with profound handicap as is the Early Communicative Skills focus on sensory stimulation directed at encouraging children to be responsive.

Hand-signs A second area of inquiry which deserves further investigation is Le Prevost's belief that she has detected communication by symbols in the hand-signs of very

young children who have been taught the Makaton vocabulary
(see Chapter Eight; Le Prevost, 1983, 1985; Dennis, Le
Prevost and Stevens, 1986). If Le Prevost's results can be
replicated, then there would be a case for a stronger
commitment to the teaching of hand-signs to non-speaking
children in the schools, and to non-speaking preschool
children seen by educational home-visitors.

Beyond the two-word stage Some staff interviewed in the
survey which was reported in Chapter Seven stated that they
required guidance on the teaching of communication beyond
the two-word stage. Assistant 5 in the outreach project also
asked for guidance on activities at this level. There are a
variety of responses to this problem which revive issues
which were raised earlier in the study. For example, one
solution is to use existing materials which aim to promote
syntactically accurate connected speech. British examples of
these include the Schools Council Project (Leeming et al.,
1979), Project T.A.S.S. (Robson, Jones and Storey, 1982) and
the "First Sentences" programme (Gillham, 1983). All three
of these run the risk of encouraging teachers to concentrate
on the content and form of language rather than on its
purpose, as they are presented in a rather formal way to
pupils. However, they are less open to this criticism than
some of the older kits, such as those which were referred to
in Chapter Eight.

Then there is the pragmatic approach to language which has
been promoted by Joan Tough. Her work has influenced the

view of communication which was adopted in the Early Communicative Skills Project, and it has been adapted for use with children who have moderate learning difficulties (Tough, 1981). But there is some difficulty in relating it directly to work with older pupils who have severe learning difficulties. The challenge is to translate work which was carried out with very young schoolchildren into a form which is appropriate and acceptable for teenagers, yet takes account of the fact that the linguistic skills of these teenagers are at a very early level of development. There is probably no theoretical barrier to overcome here, and it would make a suitable topic for a school-based development exercise. Useful guidance would also be provided by a recent publication of McConkey and Price (1986) on helping children and young adults with severe learning difficulties to learn language in everyday settings. This combines the pragmatic outlook with the ecological validity of being set in the real life in which communication is to be used.

A third way in which communication may be promoted is through the "expressive arts" of art, music, movement and drama. This view is endorsed by the Consultative Committee on the Curriculum who state that pupils "are clearly helped by the experiences and approaches of art, music, movement and drama. On this basis, the activities and strategies of these "subjects" deserve to be brought in from their traditional place on the periphery of the curriculum, and recognised as a central element in the school´s curricular

resources" (COSPEN, 1984, p. 48). Unpublished guides to the
use of the expressive arts have been developed in some
colleges of education. There is also helpful advice in the
use of drama, especially with older, speaking children, in
the handbook and thesis of Anne McClintock (1984a, 1984b).

Needs revisited

All of the pupils considered in this study are described as
having "special educational needs". We saw in Chapter One
that concern is already being expressed about the concept of
"needs" in special education as some writers believe that it
may be a means of shoring up or disguising an older system
which has not really gone away. By law, a child's special
educational needs are defined by the local education
authority as a result of completing the procedure of
"Recording", defined in the Education (Scotland) Act 1981
and its 1982 Regulations. In essence, this means that a
pupil's needs will be defined by a group of people including
his or her parents, teachers, educational psychologist,
school doctor and so on. The 1981 Act also makes it clear
that pupils may themselves share in this process of
definition if they are over sixteen years of age. However,
even if they do participate, they are still not the final
authority on deciding what are their own special educational
needs. How does this compare with our understanding of
"needs" outside the context of special education? It seems
as if we may understand the concept of needs in at least

four different ways.

If we say "I need a drink of water" when we are very thirsty, we are talking about something immediate. Here is a problem which must be solved quickly, else we are likely to suffer. The need goes away when the water is drunk, though it will return if we become very thirsty again. But the need may be kept at bay if we drink to prevent thirst recurring.

This leads us to the second type of need which may be illustrated by the statement "People need to drink water to stay alive". The need in this case is a simple biological fact. People will die if they do not drink water in some form or another. The need is less urgent in this case than it was in the first, but both are objective facts if people wish to avoid physical distress.

An example of a third type of need is "Mr. X needs surgery because he has appendicitis". This need has similarities to the two earlier types, but there are also important differences. First, the need for surgery has arisen as a result of a pathological condition. Second, the authoritative identification of this need will almost certainly have been made by a doctor and not by Mr. X himself. Thus, diagnosis of the need and prescription of an appropriate course of action will not usually be in the control of the person in need. Third, the identity of the need and the prescribed response to it depend on judgements which are made in the light of training, experience and personal opinion.

Finally, there is a fourth type of need which is quite like the third. In statements such as "That child needs a good wash", the condition of grubbiness has been noticed by someone other than the child, and a course of treatment has also been prescribed by someone other than the child. The child may not accept the diagnosis or the prescription, unlike the person with appendicitis who will probably concur with his doctor´s opinion. In this fourth example, diagnosis and prescription are again outwith the control of the person affected by the need, but there is an additional factor. The identity of the child´s grubbiness and his need to be washed is probably much more of a subjective value judgement than the identity of a need for surgery.

How has our consideration of the place of communication in the curriculum for children with severe learning difficulties clarified our understanding of "need"? The third and fourth types of need mentioned above may be considered together as they consider judgements which are made on behalf of other people. The aim of the judgement is to bring the person who has the need within what Ralph Tyler called a set of "acceptable norms" (cited by Kliebard, 1977a, p. 60). These norms are often difficult to establish in educational contexts, and often depend upon the "nature and strength of the teacher´s conviction" about what the pupil should be learning (Kliebard, 1977a, p. 60). The implication for teachers dealing with this type of need was stated over twenty years ago by Dearden.

"The concept of "need" is an attractive one in
education because it seems to offer an escape from
arguments about value by means of a straightforward
appeal to the facts empirically determined by the
expert. But ... it is false to suppose that
judgements of value can thus be escaped. Such
judgements may be assumed without any awareness that
assumptions are being made, but they are not
escaped" (Dearden, 1966, p. 17).

What, then, are the issues which need to be recognised if we
say that children with severe learning difficulties need to
be taught to communicate more effectively?

A case has been made throughout this study for
understanding communication as a functional thing, an active
sharing of ideas. Therefore one judgement which is
recommended is that this is the "conviction" about the
nature of communication which should be adopted by teachers.
Choosing the approach of pragmatics does not mean that
children should not be taught that there are forms of
communication which are within "acceptable norms". For
example, they will be able to communicate more easily and
with a wider range of people if they learn to use connected
speech, plurals, the tenses of verbs and, generally,
increase their vocabulary. But these should be regarded as
phenomena which serve communication rather than constitute
the essence of it. A preoccupation with them should not
impede its development. One of the best examples of this
principle encountered during the Early Communicative Skills
Project was the "reading by Bliss" episode which was
referred to in Chapter Eighteen. In that instance, a
teacher made a professional value judgement that teaching a

little girl to read was an interesting "party trick", and that the time spent on it would have been better used in developing the power of her production and understanding of language. In the context of two-word language and below, we would invite teachers who want children to imitate words or to produce "action-object" sentences, such as those assessed by the Behaviour Assessment Battery (Kiernan and Jones, 1982), to ask themselves if these activities really enable their pupils to share ideas with other people more effectively. Perhaps the activities may do so. But if they are carried out to fit in with some target on a pre-arranged syllabus or a chart of normal development, or because they may be expressed easily as behavioural objectives, then we would ask the teachers to scrutinise their practice more closely.

This is the point at which it is helpful to turn to the first two types of need which were mentioned above. Translated into the context of this dissertation, the equivalent of "I need a drink of water" is "I need to communicate because I have an idea to share", or "I want to understand what your ideas are". Similarly, "People need water to drink" becomes "People need to communicate because it is in the nature of the human organism to do so". It is difficult to agree entirely with Chomsky (1972, p. 66) that language is an uniquely human characteristic, in view of the work done with apes by the Gardners (see Aitchison, 1976, p. 49-50) and Premack (1976). However, it seems reasonable to

argue that the need to communicate is a basic human need because of the "apparent ease with which humans acquire language, compared with chimps, supports the suggestion that they are innately programmed to do so" (Aitchison, 1976, p. 50).

The essential quality of both of the first two types of need is that they come from within the person. They are not diagnosed by someone else who is also likely to make decisions about the appropriate response to them. We have seen in Chapter Eight than Bryen and Joyce (1985) were disappointed that so many of the intervention programmes which they reviewed failed to take account of the spontaneous quality of communication and the interaction of personalities in which it occurred. This failure may be avoided as two examples from the fieldwork of the Early Communicative Skills Project will show.

Ann Woodward (1979) worked on the modelling and shaping of connected speech with a thirteen year old girl, Fiona, who had spoken no more than single-syllable utterances from the time that she had begun to speak, eight years previously. Woodward was pleased when she was able to elicit two-word utterances from Fiona using an activity which was latterly included in the teacher's manual (Manual, p. 225-6). But she knew that her work had facilitated a real breakthrough in communication when Fiona's mother telephoned the school to say that her daughter had come to tell her "Mummy, church, book" at the start of "Songs of Praise" on television.

Later, in school, she pointed to Woodward and said, "Hair messy", thereby encouraging Woodward to wear a headband. Fiona spoke because she needed to speak.

Similarly, there was the incident reported in Chapter Fourteen when the previously nonverbal Indian girl, Zaheeda, spoke two words in Gujurati. These were words which she had not been taught by her instructor, Elizabeth Young, who, though she understood some Gujurati, had been working quite appropriately on teaching the girl to understand a small number of English words related to clothing. But thanks to the excitement of Young's lesson with a group of children, Zaheeda found that she needed to say something, and so she said it.

Both of these incidents illustrate the spontaneous and unpredictable nature of communication, the fact that communication takes place in interaction with other people, and the fact that it serves a purpose. Both of the girls needed to communicate. The need had come from within them and was expressed in words which no one had knowingly taught them. They had defined their own special needs.

This study has helped to show that the essential qualities of communication can be accessible to all children, irrespective of the severity of any handicap they may have. In addition, it seems that the conceptual framework and the materials of the Early Communicative Skills Project have enabled teachers to understand the nature of communication and find direction in their teaching of it. This should give

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us the confidence to paraphrase Bruner (1974, p. 138) and assert that "the need to communicate exists in any child at any age in some form that is both honest and powerful". We have a duty to let them express it.

Chapter Nineteen

CHAPTER TWENTY

CONCLUSIONS

Introduction

This short chapter summarises the principal findings of the study which are relevant to the teaching of communication to pupils who have severe and profound learning difficulties.

Principal Outcomes

1 The principal outcome of the investigation is a framework which describes five levels in the development of communication in the period from birth to the two-word level. These levels are

   1 a near-passivity which occurs in very early infancy and which also characterises the behaviour of people with profound mental handicap,

   2 active interest in one's surroundings and relationships (though speech is not yet used or understood),

   3 understanding of words and gestures, and imitation of spoken words,

   4 production of first words,

   5 production of connected speech.

   The framework provides a simple, rapid means of identifying the stages pupils have reached in their development of communication. These levels may be related directly to teaching activities.

2 The framework is the underlying structure of a scheme for teaching communication at and below the two-word level. The activities of the scheme are based on the principle

that communication is spontaneous and purposeful, and that teaching activities should reflect this. Lack of regard for this principle in the construction of other schemes has caused concern, especially in the case of schemes which rely on imitation as a technique of teaching.

3   The investigation's survey showed that the Education (Mentally Handicapped Children) (Scotland) Act 1974 caused teachers and instructors anxiety by its requirement that <u>education</u> should be provided for children with severe and profound learning difficulties. However, the framework and its scheme for teaching communication enabled teachers and instructors in the pilot study (Chapter Fourteen) and Lanarkshire outreach (Chapter Eighteen) to understand more about communication, and to devise appropriate educational experiences for the individual children with whom they were working.

<div align="center"><u>Teaching communication</u></div>

4   Communication has an important place in the curriculum for children with severe and profound learning difficulties. There are several reasons for this.

Difficulty with communication is one of the main results of mental handicap.

Communication is an essential human characteristic which enables us to form relationships with other people.

Communication has an important place in the

<div align="right">Chapter Twenty</div>

curriculum of pupils in mainstream schools. All children are entitled to education, irrespective of any disabilities they may have. Therefore, difficulty with learning should not deny a pupil access to an area of the curriculum which is regarded as important.

5 There is no master chart for describing the communication of any individual adequately, nor for providing teachers with foolproof prescriptions for the teaching of communication. Teachers and psychologists should stop looking for this philosopher's stone.

6 Behaviour modification and the objectives approach to teaching continue to exercise an influence on classroom practice and record-keeping in special education. Teachers should learn how and when it is appropriate to use these practices to help them teach more effectively. But they should also beware lest decisions about techniques of teaching exercise an unhelpful influence on determining the content and implementation of the curriculum.

7 The pilot study (Chapter Fourteen) and the Lanarkshire outreach (Chapter Eighteen) showed how school-based curriculum development may be facilitated by the use of consultant tutors who can obtain information more readily than can the teachers themselves, and who can be available to act as sounding-boards when new ideas are being developed. A small-scale project recently used college of education lecturers in this role (Jones et al., 1986). It should be one of the roles of advisers in special education, and would also be appropriate for

those educational psychologists who are interested in curriculum development.

The Warnock Report recommended the setting up of a "staff college" of special education (Committee of Enquiry, 1978, paras. 18.18-22). This college has never been established though some of its functions are fulfilled by the Committee on Special Educational Needs (COSPEN). Yet there is no clear mechanism for translating COSPEN's proposals for the development of curriculum into practice. The quality of this transmission depends on how the local authorities decide to respond to the ideas. A formal network of consultant tutors should be established as the fieldwork branch of COSPEN.

The Study in Context

8 Two critical concepts, "development" and "function", have been referred to frequently in the course of the study. An understanding of these concepts helps to promote the philosophical change which underpinned the Warnock Report: a change from a focus on people's disabilities to a focus on their needs. The study will have been worthwhile if it has helped to clarify the concept of "needs" and, through that, if it helps to give direction to any future responses to the needs of people with severe and profound learning difficulties.

The study's unique outcomes are the five-stage framework and the teaching scheme, both based on the premise that communication has a developmental progression and that it is a functional activity. These characteristics may also

be detected in other recent developments of curriculum for pupils with severe and profound learning difficulties.

The importance of development may also be seen in Hellier's (1983) "ecological" approach to teaching children with profound learning difficulties, an approach which is based on Trevarthen's categorization of early child-adult interactions. A different type of scheme, "Let's Pretend" (McConkey, 1984), outlines a hierarchy which is used to identify starting levels for children's development of imaginative play. "Early Communicative Skills" also tries to show teachers the importance of understanding the development of communication. If they do, they may not just understand communication better; they may also become more aware of the developmental dimension in other areas of the curriculum.

The importance of function is recognized in other innovations. For example, the Scottish Education Department is currently showing close interest in Conductive Education, the Hungarian system of enabling children to overcome the effects of motor disorders. Also, many special schools are now using TVEI (the Technical, Vocational and Educational Initiative) to help pupils, through modern educational technology, to acquire skills which will be useful in the world beyond school. The study's adoption of a pragmatic view of communication is in accord with the aims of Conductive Education and TVEI - to enable children to function effectively in daily life.

APPENDIX A

Original text of report on the survey of opinions

THE TEACHING OF EARLY COMMUNICATIVE SKILLS

A survey of the opinions of
teachers and instructors working
in schools for severely and profoundly
mentally handicapped children

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William R. Dunn

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THE EARLY COMMUNICATIVE SKILLS PROJECT

The Early Communicative Skills Project is based at the Department of Education, University of Glasgow, and is funded by the Scottish Education Department. The Project aims to produce a series of instructional packages for teachers and instructors working with severely and profoundly mentally handicapped children who have little or no language.

Specifically, the Project will show how systematic instructional techniques can be applied to the teaching of the early communicative skills which enable children to make sense of the words and gestures of other people, and ultimately to generate their own language. Systematic teaching of communicative skills has still to gain widespread acceptance in the schools, yet there is no lack of research evidence to support its effectiveness as a means of attaining educational goals. The content of the Project will be designed to encourage teachers and instructors to acquire these techniques by presenting them in the context of everyday work with children, using activities and materials which have proved their worth for developing competence in communication.

The Project is an exercise in teacher-development. If it is to be credible it must produce practical ideas which will be used by the staff of the schools. Content being considered for inclusion should be tested by the teachers and instructors as well as by the research workers, and should be amended or discarded if it proves to be unacceptable. As a first step along the path of school-based research, the survey reported in this paper was carried out to determine how staff perceive the teaching of mentally-handicapped children, and what they perceive as their needs in in-service training. The outcome of the survey was the set of recommendations which appears on page 2, and these will be used as points of reference in the subsequent development of the Project.

SUMMARY OF RECOMMENDATIONS

The recommendations listed below might have been uncovered in the course of the Project even if an initial survey had not been carried out, but inevitably this would have happened in a piecemeal fashion. The advantage resulting from an initial, thorough survey is that a broad base of consensus from which to begin planning has been established at the very start of the Project.

1. *An information bank (or banks) should be developed for staff working in special education.*

    A bank should (a) *be simple to use;*

    (b) *be easily accessible to all the schools in its area;*

    (c) *take into account the wide variety of disabilities among children who require special education;*

    (d) *take into account the educational, physical and social welfare of the children;*

    (e) *have the facility for being kept up-to-date.*

2. *Schemes of teaching early communicative skills should be prepared. These should be set in a developmental framework so that they are not seen as isolated units of teaching, but they should be sufficiently flexible to take account of different rates of progress.*

3. *The Project should give guidance in the practice of systematic teaching. This will help staff to set realistic objectives for the children and to create conditions in which learning has the best chance of occurring. It will also help them to acquire techniques which will make their objectives more easy to attain.*

    Specific training is required in

    (a) *the management of overactive and severely withdrawn children;*

    (b) *the devising of activities and materials for working with profoundly handicapped children.*

4. *Activities which can be carried out with groups of children should be devised.*

5. *The Project should present assessment procedures which are efficient at describing the abilities of children in a manner which will lead to the prescription of activities for them.*

6. *The Project should consider the educational advantages of home-school links.*

7. *The Project should aim to develop the skills of experienced staff in a format which combines the study of recent advances with practical exercises and opportunities to discuss the problems of practice with colleagues working in the same field.*

AIM OF THE SURVEY

The aim of the survey was to propose a series of recommendations which would give direction to the Early Communicative Skills Project.

The aim was realised through a series of consultations with teachers and instructors working in schools for severely and profoundly mentally-handicapped children. Specifically, two objectives were set.

The first objective was to discover what staff considered to be the problem areas in assisting the development of early communicative skills in children who have little or no language.

The second objective was to determine what format of in-service training would be most likely to be acceptable to teachers and instructors.

PROCEDURE

The survey took place in three phases.

Phase 1 was an informal canvassing of the opinions of a small number of educational practitioners including staff in schools for the severely and profoundly handicapped, educational psychologists and members of the Project's Steering Committee.

The object of this exercise was to identify broad areas of concern about the teaching of early communicative skills so that more specific questions could be posed in the next phase of the study.

The outcome of Phase 1 was the interview-schedule which appears in Appendix B, on Page 25.

Phase 2 was directed at producing a number of preliminary recommendations about the content and format of in-service staff training in the development of early communicative skills.

Eighty-three members of staff working in schools in Strathclyde Region were interviewed by their local educational psychologist or by the Project's research officer. A non-directive approach was used, although guidance for interviewers was provided in the form of the interview-schedule mentioned above.

The findings and recommendations produced in this part of the study were detailed in an Interim Report which appears in Appendix C, on Page 30.

Phase 3 was aimed at discovering if the recommendations of the Interim Report had provided an accurate picture of opinions of the teaching of early communicative skills.

The Report, which incorporated a questionnaire, was sent to seventy-eight of the interviewees on whose responses it was based. (Five of the original eighty-three participants were not consulted as notes on their interviews were not received until a late stage of the study). Seventy people replied to the questionnaire, a return of approximately 90%.

The result of this final part of the survey was the set of recommendations which appears on Page 2.

FINDINGS

Phase 1

The first objective was to identify problem areas in the development of communicative skills. Opinions expressed during the informal consultations which took place at this stage suggested that the following three groupings would be useful:

1. the materials and activities used in teaching,

2. assessment,

3. classroom management,

The second objective, to determine suitable formats of in-service training, was considered to be sufficiently explicit to require no subdivision.

An interview-schedule was then drawn up so that training and each of the three problem-areas could be investigated in a more detailed survey. The schedule appears in Appendix B, on Page 25.

Phase 2

Eleven psychologists (with all of the Divisions of Strathclyde Region represented) and the Project's research officer prepared written notes on the interviews they had carried out. The content of these notes showed that it would be helpful to make some changes in the labelling of the problem-areas suggested in Phase 1 so that the perceptions of the interviewees could be expressed more accurately. These changes are detailed in Table 1.

TABLE 1   421

Changes in the labelling of problem –
areas during Phase 2 of the study

Original label	Revised label	Reason for change
The materials and activities used in teaching Classroom management	Teaching the child	The content and method of teaching should not be considered in isolation from each other
Assessment	Getting to know the child	Many people associate 'Assessment' with the marking of developmental charts which are rarely seen to assist in the planning of work. Staff want to know more about the child's personal development so that plans for educational treatment can be made.

The information obtained during the interviews was then
re-organised under the headings of 'Teaching the child',
'Getting to know the child' and 'Training', and was
summarised in the form of the Interim Report which appears
in Appendix C on Page 30.

Two types of conclusion are made in the Interim Report.
One type summarises opinions which occurred frequently in
the interviews but which could not lead to recommendations
that would be within the remit of the Project. The other
type of conclusion summarises opinions which related clearly
to the teaching of early communicative skills; these
conclusions led to the formulation of nine recommendations
which were pursued in the next phase of the survey.

There was one other point which deserves mention
even although it did not fit either category of conclusion
in the Interim Report. The issue is the concern of
teachers and instructors about each other's professional
status. It is a matter which excites strong feelings
and which was raised very frequently by the interviewees
despite the fact that it is not something on which the
Project could be expected to act.

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Phase 3

Table 2 provides details of the numbers of
participants in this final phase of the survey.

The outcome of Phase 3 was a set of revised
recommendations devised from responses to the
questionnaire incorporated in the Interim Report.
Responses to each recommendation of the questionnaire
are analysed, and each section of analysis ends with
the statement of a revised recommendation.

TABLE 2

Participants in the Survey of Opinions on the Teaching of Early Communicative Skills.

	Head-Teachers Registered with G.T.C. [*]		Teachers Registered with G.T.C.		Heads of Centre Not Registered with G.T.C.		Other Centre Staff Not Registered with G.T.C.		Speech Therapist		TOTALS	
	Number of Interviews	Number of Returned Questionnaires	Number of Interviews	Number of Returned Questionnaires	Number of Interviews	Number of Returned Questionnaires	Number of Interviews	Number of Returned Questionnaires	Number of Interviews	Number of Returned Questionnaires	Number of Interviews	Number of Returned Questionnaires
Interviewed by Project's Research Officer	7	6	16	14	11	11	17	15	0	0	51	46
Interviewed by Educational Psychologists [*]	1	1	9	8	4	4	10	8	1	1	25	22
Self-administered Interview [*]	1	1	1	1	0	0	0	0	0	0	2	2
TOTALS	9	8	26	23	15	15	27	23	1	1	78	70

* These rather clumsy descriptions were chosen as 'instructor-in-charge' and 'instructor' were not the job titles of all the non-registered staff.

Recommendation 1   *An information bank is required to give staff ready access to materials and activities which have been proved to be helpful when working with mentally handicapped children. This bank should take account of the wide variety of disabilities encountered among the children.*

I disagree	O
I do not think so	O
No opinion	O
I think so	1
I agree	69
No response recorded	O

The establishment of an information bank was the most unequivocally acceptable recommendation of the questionnaire. The case for its establishment was supported by members of staff who commented on the saving of time and money which could be made, especially when compiling the annual requisition if they had access to reliable information about activities, materials and even furniture appropriate to the needs of the children in their care.

Some remarks were made about the efficient maintenance of such a bank. Two respondents mentioned that it would be helpful to have the services of an educational adviser as a professional guide to the catalogued resources and several stated that it was important to keep the information up to date.

One person made the point that the bank could be a medium through which the staff could learn about the efforts of individual teachers in developing techniques and materials which had proved successful and which could usefully be communicated to a wider audience. The bank might also help to expose the areas of need in which development work is required - activities for older boys was one case stated specifically.

Several members of staff made the point than an information bank should be readily accessible to all schools and units. A centrally-based retrieval system would probably be more easy to keep up to date than any other option but it seems more than likely that this would not be used by the majority of schools. A locally-based mobile "library", on the other hand, would certainly bring information right into the schools but it might not be as comprehensive in its cover as a central bank, it might be more difficult to keep up to date and it would require a commitment of time and staffing by either the Child Guidance Service, the educational advisers or the School Library Service. Despite these difficulties the responses to the questionnaire indicate that the notion of an information bank is one which is attractive to many members of staff and that the Project should attempt to find ways of bringing it into being.

Revised recommendation

An information bank (or banks) should be developed for staff working in special education.

A bank should meet the following criteria:-

(1) It should be simple to use.

(2) It should be easily accessible to all the schools in its area.

(3) It should take into account the wide variety of disabilities among children who require special education.

(4) It should take into account the educational, physical and social welfare of the children.

(5) It should have the facility for being kept up to date.

Schemes of work should be developed 426
so that school staff can see their
teaching in a medium- and long-term
context.

I disagree	3
I do not think so	1
No opinion	0
I think so	10
I agree	56
No response recorded	0

Opinion was broadly in favour of this recommendation but a number of reservations were expressed. In the end, a consistent picture does emerge.

The simple case for having schemes of work was made by members of staff who remarked that this practice would give greater encouragement and confidence in the setting of teaching objectives and might help to make answerable the question, "Where is all this leading?"

The case against schemes of work is equally simple. Long-term planning and the imposition of some master-scheme do not make sense in schools for severely mentally handicapped children as the pupils present such a wide range of handicaps and needs. Individual schemes can be developed and implemented but these should be the result of careful observation of the specific children for whom they are intended.

These two poles of opinion were reconciled by members of staff who commented that sound and systematic guides to areas of teaching are required but these should be sufficiently flexible to allow teachers and instructors to adapt them to the needs of individual children. Teaching would be set within a framework which takes account of the development of language, although for some children it would clearly not make sense to consider too much of the range of communicative development at one time.

Revised recommendation

Schemes of teaching early communicative skills should be prepared. They should be presented in a format which makes it clear that they have a place in an overall framework of development. They should also be sufficiently flexible to take account of widely differing rates of progress.

Recommendation 3   *Special attention and training should be*   427
                        given to the needs of various types of
                        multiply-handicapped children.

Participants were asked to rate on a five-point scale the difficulties
presented by groups of handicapped children whose mental handicap was
complicated by other factors. The following table summarises the
findings.

Types of multiply-handicapped children	This type of child presents no difficulties at all	This type of child presents hardly any difficulties	This type of child is sometimes difficult	This type of child is frequently difficult	This type of child is always very difficult	No response from participant
1. The blind or partially sighted	1	6	16	12	17	18
2. The deaf or partially hearing	O	4	15	17	19	15
3. The profoundly handicapped	O	1	8	12	41	8
4. The epileptic	1	10	37	12	2	8
5. Other neurologically impaired children (eg. the cerebral palsied)	1	8	23	16	17	5
6. Children with severe circulatory disorders	3	12	25	4	4	22
7. Children who 'cut off' into their own world	O	2	8	17	36	7
8. Children who are overactive or who do not concentrate	O	O	10	16	38	6

Appendix A

This recommendation turned out to be the most contentious part of the questionnaire for a variety of reasons.

Many respondents did not record ratings for certain types of handicap as they had no experience of children affected by them. Others felt that a distinction should have been made between difficulties which make children awkward to teach and those which make them difficult to control. Some people found the inclusion of 'children with severe circulatory disorders' confusing in a questionnaire about mentally - rather than physically - handicapped children, but the reason for its inclusion was the experience of having met teachers who were concerned about the limits to which they could work with a child with a seriously-impaired circulatory system.

Forty of the seventy respondents did assign a rating to each of the eight categories of handicap listed above, and the analysis of these ratings is the subject of a separate paper.* The following three main points emerged from the analysis:-

(1)   A broad distinction can be made between handicaps which require staff to make changes in their teaching techniques, and handicaps which cause more concern as behaviour disorders.

(2)   The children who cause most concern are the overactive and those who withdraw from social contact. These children make special demands on the ability of staff to establish control so that good conditions for learning can be created.

(3)   Profoundly mentally-handicapped children also pose special difficulties for school staff. The problem here is that of finding a credible scheme of activities for children who, at first, may seem to have little to gain from being placed in an educational setting.

More comments were made on this recommendation than on any other in the questionnaire. The most frequently and forcefully expressed was the view that we should not be concerned with specific types of handicap: the

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MacKay, G.F. (1979) Degrees of difficulty in the teaching of multiply-handicapped retarded children. Paper presented at special education research seminar, Department of Education, University of Glasgow.

development of competence at drawing the best out of children and at handling them are matters of more importance for they allow the teacher or instructor to respond to the child rather than to his handicap. This is a good general point which will be kept in mind in the course of the project, but it would be unwise to ignore the need (reflected in the table above) for finding ways of creating the best climate for learning in over-active and severely-withdrawn children, and for finding purpose and definable objectives when working with the profoundly mentally handicapped.

Revised recommendation

The Project should give guidance in the practice of systematic teaching. This will help staff to set realistic objectives for the children and to create conditions in which learning has the best chance of occurring. It will also help them to acquire teaching techniques which will make their objectives more easy to attain.

Specific training is required in the following areas:

(1) the management of overactive and severely-withdrawn children,

(2) the devising of activities and materials for work with profoundly-handicapped children.

Recommendation 4   *There is a need for in-service training in classroom management in order that one-to-one teaching may be carried out more readily.*

I disagree	2
I do not think so	12
No opinion	3
I think so	10
I agree	41
No response recorded	2

The above results suggest that teachers and instructors are broadly in favour of in-service training in classroom management, but analysis of the comments made on the recommendation suggested that this was really more of a vote in favour of being given greater time and opportunity to practice one-to-one teaching.

Frequent references were made to the limits placed on individual teaching by the lack of space in schools which were not designed for the teaching of severely mentally handicapped children. There can be no immediate answer to this problem in the form of new, purpose-built buildings but perhaps more publicity should be given to the successful attempts of some teachers and instructors to create individual teaching areas in quite unpromising accommodation.

The difficulties of having insufficient numbers of staff cannot be overcome so easily. Some schools can operate at a staff:child ratio of 1:2, and in these cases group management presents relatively few problems. This is not so when the school operates a contact-ratio of 1:9 or 1:10. Tackling the problem of staffing is not within the Project's remit, but as it is such an important issue in a number of schools, staff may have to look again at the possibilities of using parental and other voluntary help when no more paid assistance can be expected from the local authority. The Project can contribute, however, by assisting staff in the choice of activities for both group and individual work which will fit in with an overall picture of the development of communication. This notion of "Give us the tools and we shall get on with the job" was reinforced by those respondents who remarked that the management of a group should not be an area of special difficulty for trained and experienced staff.

Revised recommendation

Activities which can be carried out with groups of children should be devised.

<u>Recommendation 5</u>
In-service training should promote the use of charts and other assessment procedures which are quick and easy to administer, and which should be simple to interpret when completed. These charts must give a realistic description of a child so that the teaching can be geared to his needs.

I disagree	2
I do not think so	1
No opinion	0
I think so	3
I agree	64
No response recorded	0

This recommendation was approved almost as unequivocally as Recommendation 1. Typical comments in support were, "The more time spent on chart keeping, the less time left for teaching" and "Equal emphasis must also be given to practical teaching techniques and activities; we are punch-drunk with charts and bits of paper".

An important caveat was made by the teacher who did not agree "that charts and assessment procedures that are quick and easy to administer <u>can</u> give a realistic description of the child or his needs". This comment highlights the dilemma of assessment by the charts which are in common use, as even the most detailed of these can be seen to lack depth when taking any specific child into account, or when a particular area of development such as communication is being investigated in detail. This dilemma has probably grown out of too much commitment to the notion of developmental milestones, and quite simply there are not enough reliable milestones to build up a picture of the child in the detail which appears to be desired. The Project, therefore, is likely to suggest that a more effective method of assessing a child's communicative competence will be to look at his understanding of the world around him, including the understanding of words and other symbols of communication, and at the way in which he himself initiates communication. There is every likelihood that an initial assessment of this nature can be carried out quickly and easily and that progress can be made to the "real work" of choosing and planning teaching activities. This will be done within the framework of the initial assessment but will also

depend on teachers' and instructors' knowledge of the children and their ability to observe them carefully.

Observation and assessment raise the spectre of even more charting. As many members of staff will find this unacceptable the Project should aim to keep it to the minimum consistent with effective teaching.

Revised recommendation

The Project should present assessment procedures which are efficient at describing the abilities of children in a manner which will lead to the prescription of teaching objectives.

<u>Recommendation 6</u>　　　　　　*In-service training should recognise the*
part parents can play in the education
of severely and profoundly mentally
handicapped children. Staff require
assistance in developing the educational
aspect of home-school links.

I disagree	2
I do not think so	1
No opinion	2
I think so	11
I agree	54
No response recorded	0

Despite the broadly favourable slanting of results in
the above table, the comments on this recommendation
make it clear that a number of staff remain unconvinced
that <u>educational</u> advantage results from close home-school
links and parental involvement. In some cases any such
contact would be decidedly unwelcome. In fairness it
should be said that this attitude is held by some parents
also.

There is clear evidence to demonstrate the advantages
which can be gained by enabling parents to become more
effective teachers of their own children, and schools are
in a uniquely helpful position to promote this. The
obverse of this contact is that a better understanding of
how the child behaves at home can be very useful in the
planning of appropriate activities for him in school.
The Project will consider the uses to which home-school
links can be put in the development of communicative skills.

(Staff in residential and hospital schools cannot
usually have any contact with parents but it may be
worthwhile to consider ways in which care staff can be
drawn into the educative process).

<u>Revised recommendation</u>

The Project should consider the educational advantages of
home-school links.

Recommendation 7   *In-service training should develop along workshop lines so that staff may have practical ideas which will help them understand children better.*

I disagree	1
I do not think so	3
No opinion	0
I think so	4
I agree	62
No response recorded	0

Recommendation 8   *A postal course for independent study should be developed.*

I disagree	5
I do not think so	1
No opinion	1
I think so	14
I agree	49
No response recorded	0

Recommendation 9   *A postal course should be developed in preference to a workshop course for all staff, whether or not they live in remote areas.*

The workshop would definitely make sense if travel to it were easy to arrange	50
The workshop would probably be better	11
No opinion	1
The postal course would probably be better	1
The postal course would definitely be better for all staff	6
No response recorded	1

Appendix A

It was clear from the additional comments to these
recommendations that a workshop course would be the
preferred method of study. This opinion was expressed
at least as strongly by staff working in rural areas as
by those living in the areas of greater population. The
advantages of the workshop were seen to be the
opportunities for shared learning and exchange of ideas
among experienced staff and, especially for people
working in small schools or rural areas, the rare
opportunity to talk professionally with colleagues
working in the same field.

There was no strong feeling against the production
of units for independent study, and many people felt that the
two systems (i.e. workshop and postal course) could run
in conjunction. This idea will be followed up as it is
probably the most effective method of combining background
reading, practical work with children, discussion with
colleagues and evaluation of one's own teaching and the
Project material over a period of time.

Several respondents pointed out that the content
of the Project would be more important than the format
in which it is presented. It should be geared to the
needs of experienced teachers and instructors and must
have its foundation in practical work with children.

Revised recommendation

*The Project should aim to develop the skills of experienced
staff in a format which combines the study of recent advances with
practical exercises and opportunities to discuss the problems of
practice with colleagues working in the same field.*

SUMMARY OF FINAL RECOMMENDATIONS

1. *An information bank (or banks) should be developed for staff working in special education.*

   A bank should   *(a) be simple to use;*
                       (b) be easily accessible to all the schools in its area;
                       (c) take into account the wide variety of disabilities among children who require special education;
                       (d) take into account the educational, physical and social welfare of the children;
                       (e) have the facility for being kept up-to-date.

2. *Schemes of teaching early communicative skills should be prepared. These should be set in a developmental framework so that they are not seen as isolated units of teaching, but they should be sufficiently flexible to take account of different rates of progress.*

3. *The Project should give guidance in the practice of systematic teaching. This will help staff to set realistic objectives for the children and to create conditions in which learning has the best chance of occurring. It will also help them to acquire teaching techniques which will make their objectives more easy to attain.*

   Specific training is required in the following areas:

        1. the management of overactive and severely-withdrawn children,

        2. the devising of activities and materials for work with profoundly-handicapped children.

4. *Activities which can be carried out with groups of children should be devised.*

5. *The Project should present assessment procedures which are efficient at describing the abilities of children in a manner which will lead to the prescription of activities for them.*

6. *The Project should consider the educational advantages of home-school links.*

7. *The Project should aim to develop the skills of experienced staff in a format which combines the study of recent advances with practical exercises and opportunities to discuss the problems of practice with colleagues working in the same field.*

APPENDIX A

LIST OF PARTICIPANTS

Mrs. C. Anderson, Teacher, Lennox Castle Hospital, Lennoxtown.   438

Mrs. A. Atkinson, Itinerant Teacher, Dunbarton Division Schools.

Mrs. A. Banks, Instructor-in-Charge, Cronberry School, Ayrshire.

Mrs. J. Barrie, Itinerant Teacher, Dunbarton Division Schools.

Mrs. S. Boulton, Head Teacher, Waverley Park Hospital, Kirkintilloch.

Mrs. M. Browning, Lecturer in Special Education, Jordanhill College of Education, Glasgow.

Miss E. Bryson, Senior Educational Psychologist, Child Guidance Service, Renfrew Division.

Mrs. E. Burnet, Itinerant Teacher, Dunbarton Division Schools.

Mrs. M. Burns, Instructor, Coyle School, Prestwick.

Mrs. C. Campbell, Nursery Nurse, Kersland School, Paisley.

Mrs. E. Campbell, Instructor, Clippens School, Linwood.

Mrs. P. Cantley, Instructor, Stoneylea Day Care Centre, Cumbernauld.

Mrs. J. Carmichael, Head of Greenburn School, East Kilbride.

Mrs. S. Chapman, Teacher, Lennox Castle Hospital, Lennoxtown.

Mrs. S. Cherry, Meadows School, Campbeltown.

Mrs. O. Clark, Itinerant Teacher, Ayr Division Schools.

Mrs. M. Conroy, Instructor, East Bay School, Helensburgh.

Mrs. C. Cowan, Instructor-in-Charge, Langbrae School, Kirkintilloch.

Miss T. Cunninghame, Instructor, James MacFarlane School, Saltcoats.

Miss M. Curtin, General Assistant, Greenburn School, East Kilbride.

Mrs. K. Darroch, Teacher, Greenburn School, East Kilbride.

Mrs. S. Davidson, Head Teacher, Drummore School, Oban.

Miss E. Dickson, Head Teacher, Craigbank Day Care Centre, Saltcoats.

Mrs. E. Dougan, Teacher, Lennox Castle School, Lennoxtown.

Mrs. B. Edwards, Itinerant Teacher, Ayr Division Schools.

Mrs. A. Ellis, Care Assistant, Greenburn School, East Kilbride.

Mrs. M. Findlay, Teacher, Drummore School, Oban.

Mrs. J. Fleming, Assistant, Sutherland House, Prestwick.

Mrs. E. Garven, Instructor, Cronberry School, Ayrshire.

Dr. M. Gibson, Senior Educational Psychologist, Child Guidance Service, Lanark Division.

Mrs. H. Gilmour, Officer-in-Charge, Sutherland House, Prestwick.

Mrs. S. Gore, Itinerant Teacher, Dunbarton Division Schools.

Mrs. M. Gould, Head Teacher, Deanbank School, Coatbridge.

Miss M. Graham, Head Teacher, Lilybank School, Port Glasgow.

Appendix A

Mrs. L. Greig, Instructor, Edward Lawson Centre, Wishaw.

Mrs. E. Hilferty, Itinerant Teacher, Dunbarton Division Schools.

Mrs. M. Hodge, Instructor, Coyle School, Prestwick, Ayrshire.

Mrs. B. Hulme, Nurse-in-Charge, Helensburgh Day Care Centre.

Mrs. J. Hutton, Head Teacher, Lennox Castle Hospital, Lennoxtown.

Mr. R. Jarvis, Senior Educational Psychologist, Child Guidance Service, City of Glasgow.

Mr. N. Johnston, Research Assistant, University of Glasgow.

Mr. A. Kelly, Head Teacher, Woodside School, Dunoon.

Miss P. Kernahan, Educational Psychologist, Child Guidance Service, Ayr Division.

Mrs. E. Kirkpatrick, Teacher, Lennox Castle Hospital, Lennoxtown.

Ms. R. Knight, Teacher, Victoria Park School, Newmains.

Mrs. J. Laing, Instructor, Lilybank School, Port Glasgow.

Mrs. E. Lightbody, Teacher, Lennox Castle Hospital, Lennoxtown.

Mrs. J. Loudon, Instructor, Edward Lawson Centre, Wishaw.

Miss K. McArthur, Speech Therapist, Stanmore House, Lanark.

Mr. B. McAusland, Senior Educational Psychologist, Child Guidance Service, Dunbarton Division.

Mrs. W. MacCallum, Senior Educational Psychologist, Child Guidance Service, Dunbarton Division.

Mrs. M. McDade, Care Assistant, Greenburn School, East Kilbride.

Mrs. E. MacDonald, Instructor, Edward Lawson Centre, Wishaw.

Miss McDougall, Instructor, Craigbank Day Care Centre, Saltcoats.

Mrs. M. McEvinney, Instructor, Overton School, Glasgow.

Mrs. W. McEwan, Teacher, Bellfield Hospital, Lanark.

Mrs. M. McFadzean, Instructor-in-Charge, Easton Place School, Auchinleck.

Mrs. D. McFarlane, Matron, Clippens School, Linwood.

Mrs. I. MacFarlane, Teacher, Lennox Castle Hospital, Lennoxtown.

Mrs. M. McFarlane, Itinerant Teacher, Dunbarton Division Schools.

Mrs. A. McGill, Senior Instructor, Bothlyn School, Chryston.

Mr. S. McGinnis, Head Teacher, Merchiston Castle, Elderslie and Broadfield Hospital Schools.

Miss M. McGuire, Lecturer, Notre Dame College of Education, Glasgow.

Mr. F. McHarry, Itinerant Teacher, Renfrew Division Schools.

Mrs. F. McIlhenny, Head Teacher, Kersland School, Paisley.

Mrs. P. MacIntyre, Teacher, Waverley Park Hospital, Kirkintilloch.

Mrs. MacLellan, Instructor, Wellpark School, Glasgow.

Mrs. C. MacLeod, Instructor-in-Charge, Elderslie Hospital School, Renfrewshire.

Mr. D. Meredith, Head Teacher, Whitegates School, Lochgilphead.

Mrs. F. Miller, Head of East Bay School, Helensburgh.

Mrs. J. Murray, Teacher, Whitegates School, Lochgilphead.

Miss M. Neilson, Senior Educational Psychologist, Child Guidance Service, City of Glasgow.

Mrs. L. Nicol, Care Assistant, Greenburn School, East Kilbride.

Mrs. Nolan, Instructor, Merchiston Castle Hospital, Renfrewshire.

Mrs. A. Orr, Nurse-in-Charge, Woodstock School, Kilmarnock.

Mrs. G. Orr, Instructor, Linburn School, Glasgow.

Mrs. R. Parker, Itinerant Teacher, Ayr Division Schools.

Miss E. Pass, Teacher, Lilybank School, Port Glasgow.

Miss M. Peel, Head of Coyle School, Prestwick.

Mrs. M. Robertson, Instructor, Wellpark School, Glasgow.

Mr. R. Rutherford, Senior Educational Psychologist, Child Guidance Service, Renfrew Division.

Mrs. R. Scott, Instructor, Victoria Park School, Newmains.

Mrs. S. Shanks, Head Teacher, Stanmore House, Lanark.

Mrs. M. Shields, Nursery Officer, Witchill School, Kilmarnock.

Mrs. J. Skelton-Smith, Head Teacher, Victoria Park School, Newmains.

Mrs. C. Smith, Itinerant Teacher, Renfrew Division Schools.

Mrs. M. Smith, Head of School Unit, Caldwell House, Lugton.

Mrs. S. Stewart, Senior Educational Psychologist, Child Guidance Service, Dunbarton Division.

Miss L. Stoddart, Nursery Officer, Sutherland House, Prestwick.

Mrs. M. Swanson, Instructor, Woodstock School, Kilmarnock.

Mr. R. Thomson, Senior Educational Psychologist, Child Guidance Service, Ayr Division.

Mrs. J. Walker, Supervisor, Stoneylea Day Care Centre, Cumbernauld.

Mrs. M. Ward, Instructor, Coyle School, Prestwick.

Mrs. B. Wood, Instructor, Clippens School, Linwood.

Mrs. A. Woodward, Teacher, Deanbank School, Coatbridge.

Mrs. C. Young, Principal Educational Psychologist, Child Guidance Service, Argyllshire.

APPENDIX B

NOTES TO INTERVIEWERS TAKING PART IN

THE STUDY

EARLY COMMUNICATIVE SKILLS PROJECT

Preliminary Survey of Teachers and Instructors

Notes for Interviewers

1. If possible staff to be interviewed should be known to
   you or should be working in centres where you are a
   fairly regular visitor.

2. All of the interviewees should be given a copy of the
   publicity pamphlet. Please reassure them that the
   interview is not in any way an inspection, but an
   attempt to obtain from the customers a fair picture of
   their needs.

3. The target population are teachers and instructors who
   work daily with children whose spoken communication is
   at or below the stage of two-word utterances.

   N.B.   1. The children may be of any age.

           2. Teachers and instructors of profoundly
              handicapped children should be
              included in the survey.

           3. 'Two-word utterances' is not a precise
              term: I have in mind combinations of
              the pivot-open type (e.g. 'juice alldone',
              'Daddy gone'), but it is not easy to
              define these categorically.

           4. Children communicating by signs may be
              taken into account in the development
              of the project. Staff working with them
              should therefore be interviewed if two
              words are not being combined in speech.

4. Please tell your interviewees that they will be sent a
   copy of a preliminary report before any findings of
   the survey are broadcast. They will be asked to
   comment on the preliminary report by means of a
   questionnaire. The final report will be compiled from
   interview and questionnaire data.

5. The interviews will of course be open-ended but the
   following categories and sample questions may help to
   structure them.

   A. Activities (aims, content, techniques, materials)

      1. What (techniques, materials) have you found
         useful when trying to develop communication?

      2. Do (did) you use any commercial apparatus?
         What are your opinions on its worth?

3. Is there any equipment you've heard of that you'd like to try? Why? Where did you hear about it?

4. Give me any examples of your work which gave you satisfaction or proved to be particularly successful.

5. Do you have a scheme of work for communication activities? Do you need one?

6. What decides your choice of approach in teaching communication?

7. Is developing communicative skills really best left to a specialist? Why (not)? (What specialist?).

8. What communicative skills are you trying to develop?

9. Do you think that there are any communicative skills which can be developed in your children? (Why?)

10. What do you find difficult or purposeless when trying to develop communication?

11. What activities do you carry out with children who have no recognisable speech?

12. Do you work with any of the sign systems? Why (not?) What do you think of them?

B. Getting to know the child

1. What contacts with the child's family are useful when planning work for him? Do you have too much/too little/no contact with parents?

2. Is there any project on which home and centre (school) work together (in communicative skills)?

3. What (if any) assessment charts do you use? What do you think are their strong and weak points?

4. How often do you use the charts? (How long between assessments? What happens to the charts in the interim?)

5. Do you know why that particular chart is in use?

6. Are there any other charts of which you've heard (which you think would be useful)?

7. Do you use any other form of assessment (e.g. intuition, standardised tests, baseline charting)? If you do, what do you think of your system?

8. Are new assessment procedures needed? In what ways should they be different?

C. Classroom management

1. How many children are in your class (group)?

2. How many staff share the same group of children?

3. Does 1:1 teaching occur? When and for what purposes? Where? Main classroom or withdrawal room/area?

4. What activities take place in groups?

5. Are any children excluded from group-work? Why (not)?

6. Are there regular (deliberate) lessons in communication?

D. Staff training

1. Do you see a need for in-service training in the area of developing communicative skills?

2. What subjects would you like to see covered in that area?

3. What courses (or other training) or reading have you undertaken that have proved valuable (not valuable)? Describe them.

4. What use do you make of your psychologist(s) and adviser(s) in special education? What do you expect of them?

5. What would be a useful way to learn about new approaches (e.g., full-time block placement, weekly/fortnightly attendance, prescribed reading in your own time, workshop courses organised locally/in college of education, etc.)?

6. What sources do you consult if you are looking for advice or new ideas? Are there certain periodicals, books or libraries which are especially helpful? Is it difficult to gain access to these sources?

7. Do you meet staff from other centres professionally? What aspects of work with the children concern you most?

8. Can you think of any informal training exercises (such as those which your local psychologist may have presented) which you have found useful?

Appendix A

6. I should be very grateful if you would undertake the interviewing of .... teachers/instructors and send your results to me by THURSDAY, 30th NOVEMBER.

7. As you have sufficient reports to write in the line of normal duty I shall be happy to accept results in the form of notes. Please use the codings of Section 5 if you think that they are helpful; e.g. 'A2 - Mrs. Whatsit stopped using Peagoal Kit after 6 months: too difficult to follow, poorly graded for her children'; 'B3 - no use made of any chart: staff think charting is unproductive paperwork'.

8. The responses of your interviewees will be treated confidentially as will any comments you yourself may care to make. In order that I may contact the interviewees for the validity check (cf. Section 4), however, I would like to know their names and the centres/schools at which they may be contacted. I would also be interested to know about the different types of professional training which they have undertaken, but to avoid any hint of prying I am prepared to leave this question until the validity check, at which time it can be answered anonymously.

9. If you have any further questions about the interview or the project please do not hesitate to contact me at 041-339 8855 (ext. 7197).

Gilbert MacKay,
Department of Education,
1, Lilybank Gardens,
University of Glasgow,
GLASGOW, G12 8RZ.

ECS/5   27th October, 1978

Appendix A

APPENDIX C

<u>INTRODUCTORY LETTER AND REPORT/QUESTIONNAIRE
SENT TO INTERVIEWEES AT THE START OF PHASE 3
OF THE SURVEY</u>
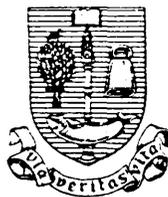
January, 1979

Towards the end of last term you were kind enough to talk either to one of your local educational psychologists or to me about the teaching of children who have little or no language.

I hope to make a full report on this survey quite soon, but before I can do so I should like to have your views on the recommendations which grew out of the survey. As a result I should like you to read the interim report which accompanies this letter and give your opinions on it in the spaces provided.

You will see that the questionnaire begins by asking for some details about yourself and your school. I have done this to help me make sense of the results as opinions have been gathered from the towns and the rural districts, from tiny schools and from very large ones, from heads of schools and from assistants. If you would prefer to remain anonymous please do not worry about giving your own name or the name of the school - it is the remainder of the information which matters most to me.

If there are any points which are unclear or which you think I should pursue further please do not hesitate to contact me.

I should be grateful if you would return the completed questionnaire to me within a fortnight of your receiving it, if this is at all possible. A stamped addressed envelope is enclosed.

Yours sincerely,

GILBERT F. MACKAY

Appendix A

EARLY COMMUNICATIVE SKILLS PROJECT

INTERIM REPORT AND QUESTIONNAIRE

                                    * Optional
                                       information

* NAME ....

* SCHOOL (and town) ....

_____

TYPE OF SCHOOL : (e.g. hospital, day care centre, school
                  for severely handicapped children only,
                  mixed special school, etc.)

                  ....

                  ....

Number of children on roll   ....

Number of permanent staff   ....

Number of visiting staff   ....

Your position on the
school staff   ....

INTRODUCTION

In November and December 1978 more than sixty members of staff in schools for severely and profoundly mentally handicapped children in Strathclyde Region were interviewed to determine what content and format of training would be most likely to develop their expertise as teachers of early communicative skills. I was assisted in carrying out the interviews by psychologists from the local Child Guidance Services to whom I am indebted for the time and effort they expended.

Our interviews loosely structured the teaching of communicative skills into four categories, namely, the materials and activities used in teaching, assessment, classroom management, and staff training. Replies to our questions made it clear that this structure was not too wide of the mark as far as staff were concerned. The main differences were ones of emphasis and these have been reflected in the recommendations and questionnaire which follow by bringing our categories into line with those of the school staff.

RECOMMENDATIONS

Recommendation 1:	*An information bank is required to give staff ready access to materials and activities which have been proved to be helpful when working with mentally handicapped children. This bank should take account of the wide variety of disabilities encountered among the children.*

(Para. 1.2)

Recommendation 2:	*Schemes of work should be developed so that school staff can see their teaching in a medium- and long-term context.*

(Para. 1.3)

Recommendation 3:	*Special attention in training should be given to the needs of various types of multiply-handicapped children.*

(Para. 1.7)

Recommendation 4:	*There is a need for in-service training in classroom management in order that one-to-one teaching may be carried out more readily.*

(Para. 1.9)

Recommendation 5:	*In-service training should promote the use of charts and other assessment procedures which are quick and easy to administer, and which should be simple to interpret when completed. These charts must give a realistic description of a child so that teaching can be geared to his needs.*

(Para. 2.3)

Recommendation 6:	*In-service training should recognise the part parents can play in the education of severely and profoundly mentally handicapped children. Staff require assistance in developing the educational aspects of home-school links.*

(Para. 2.5)

Recommendation 7:	*In-service training should develop along 'workshop' lines so that staff may have practical ideas which will help them understand children better and work with them more effectively.*

(Para. 3.6)

Recommendation 8:	*A postal course for lone study should be developed.*

(Para. 3.8)

Recommendation 9:	*A postal course should be developed in preference to a workshop course for ALL staff whether or not they live in remote areas.*

(Para. 3.9)

Appendix A

QUESTIONNAIRE

In-service training should concentrate on giving staff practical ideas which will help them understand children better and work more effectively with them.

This was the dominant theme among the responses of school staff to the questions of our interview. In the pages which follow, a more detailed summary of views is presented, and this will give you the opportunity of commenting on recommendations which we intend to develop further in the Early Communicative Skills Project.

Recommendations appear in italic type. After reading each recommendation would you please underline the opinion which reflects your view most accurately, and add any comments which you feel we should note.

1. <u>TEACHING THE CHILD</u>

1.1 Many staff reported that they had difficulty in discovering what materials and equipment are available for teaching the severely and profoundly handicapped, particularly when most published materials appeared to be too advanced for children who have little or no language. This difficulty was heightened by the uncertainty which was also expressed about deciding which teaching activities were most likely to be useful when working with the children.

1.2 *Recommendation 1: An information bank is required to give staff ready access to materials and activities which have been proved to be helpful when working with mentally handicapped children. This bank should take account of the wide variety of disabilities encountered among the children.*

Comments:

1 *I disagree*

2 *I do not think so*

3 *No opinion*

4 *I think so*

5 *I agree*

1.3 *Recommendation 2:* *Schemes of work should be developed so that school staff can see their teaching in a medium- and long-term context.*

Comments:

1 *I disagree*

2 *I do not think so*

3 *No opinion*

4 *I think so*

5 *I agree*

1.4 Activities which make use of apparatus such as the tape recorder should be developed for use with the severely and profoundly handicapped. There are no plans for incorporating this as a unit of study in the present project, although it is perhaps an area which might perhaps be followed up by individual participants once training has begun.

1.5 Staff of schools should have more frequent contact with specialist teachers of children with visual and hearing disorders, psychologists, school doctors, speech therapists, and physiotherapists. This contact would be aimed at obtaining advice from the specialists and giving them a fuller picture of the children than is possible with only occasional visits.

1.6 It is particularly difficult to find teaching activities which can be carried out with multiply-handicapped children.

1.7 *Recommendation 3:* *Special attention in training should be given to the needs of the following groups of children (please ring either 1,2,3,4 or 5 for each child; 1 would indicate 'this type of child presents no difficulties at all'; 2, 'this type of child presents hardly any difficulties'; 3, 'this type of child is sometimes difficult'; 4, 'this type of child is frequently difficult'; 5, 'this type of child is always very difficult').*

a.	*the blind or partially-sighted*	......	1	2	3	4	5
b.	*the deaf or partially-hearing*	......	1	2	3	4	5
c.	*the profoundly handicapped*	......	1	2	3	4	5
d.	*the epileptic*	......	1	2	3	4	5
e.	*other neurologically-impaired children (e.g. the cerebral palsied)*	......	1	2	3	4	5
f.	*children with severe circulatory disorders*	......	1	2	3	4	5
g.	*children who 'cut off' into their own world*	......	1	2	3	4	5
h.	*children who are over-active or who do not concentrate*	......	1	2	3	4	5

Comments (please add any other special type(s) of
difficulty and give it (them) a mark between 1 and 5).

1.8 Most staff stated that they taught one-to-one at some
     time during the school day. Finding a time and a
     place in which to carry out this type of teaching
     frequently presented difficulties.

1.9 *Recommendation 4:   There is a need for in-service training*
     in classroom management in order that one-to-one teaching
     may be carried out more readily.

                                                   Comments:

     1   *I disagree*

     2   *I do not think so*

     3   *No opinion*

     4   *I think so*

     5   *I agree*

1.10 Non-verbal communication systems such as Makaton
     Vocabulary and Amerind are in use in a minority of
     schools. Staff who practise these techniques are
     enthusiastic about their worth; where there is
     opposition to sign systems, it seems to be coming
     from staff who have not used them. It is unlikely
     that the techniques of non-verbal communication will
     be considered at any depth in the course of this
     project as educational advisers, Child Guidance and
     Speech Therapy services are already prepared to
     organise short courses when the need is made known.

2. GETTING TO KNOW THE CHILD

2.1 Many schools record children's progress on a published chart such as the Progress Assessment Charts (PAC) or a locally-produced report form. While these certainly have a place in the school's recording procedure they are not detailed enough for examining the child's ability to communicate.

2.2 Good staff need training in going beyond the limits of their assessment charts so that they can produce an accurate picture of each child. School staff need to learn more about the effects of the following factors on the results which appear on assessment charts: the child's physical condition, his home, his personal history, the particular shortcomings of the charts being used, the conditions under which assessment is taking place.

2.3 *Recommendation 5: In-service training should promote the use of charts and other assessment procedures which are quick and easy to administer, and which should be simple to interpret when completed. These charts must give a realistic description of a child so that teaching can be geared to his needs.*

Comments:

    1   *I disagree*

    2   *I do not think so*

    3   *No opinion*

    4   *I think so*

    5   *I agree*

2.4 The nature of home-school contact varies considerably. In most cases it takes place for the purposes of promoting good-will between parents and school staff, although in a few schools there was the additional objective of making parents active participants in their child's education.

2.5 *Recommendation 6: In-service training should recognise the part parents can play in the education of severely and profoundly mentally handicapped children. Staff require assistance in developing the educational aspects of home-school links.*

Comments:

    1   *I disagree*

    2   *I do not think so*

    3   *No opinion*

    4   *I think so*

    5   *I agree*

3. <u>TRAINING</u>

3.1 A general course of lectures cannot deal in any detail with the needs of all the mentally-handicapped children known to a particular teacher or instructor.

3.2 We feel that the 'workshop' approach is sufficiently flexible to accommodate the needs of most staff in schools for the severely and profoundly handicapped. Staff attending a workshop in communicative skills would receive a common core of instructional material in the form of prescribed reading and probably tape-slide illustrations.

3.3 At the group meetings of the workshop the core material would be adapted to meet the needs of the individual participants. They would then be set assignments to carry out with their own pupils back at school.

3.4 Each group would be chaired by a tutor who would lead discussions on the core material, and on the success or difficulties produced by trying to apply it in the classroom.

3.5 Each participant would be likely to use the material with only a few children in the course of the workshop. But we would expect that even this limited amount of work with a teacher's or instructor's own children, combined with hearing about the work of the other members of a tutor group, would allow the expertise developed during training to generalise to the teaching of other children.

3.6 *Recommendation 7: In-service training should develop along 'workshop' lines so that staff may have practical ideas which will help them understand children better and work with them more effectively.*

Comments:

    1   *I disagree*

    2   *I do not think so*

    3   *No opinion*

    4   *I think so*

    5   *I agree*

3.7 It may be very difficult for staff working in remote areas to take part in a workshop. We have therefore thought of preparing a series of self-instructional packages which would be mailed to course participants. Assessment of what they had gained would either be built into the exercises of the packages or would be carried out in postal contact with the tutor.

(If you do not work in a remote area, please imagine that you do for this question!)

3.8 *Recommendation 8: A postal course for lone study should be developed.*

                                                         Comments:

    1 I disagree

    2 I do not think so

    3 No opinion

    4 I think so

    5 I agree

3.9 *Recommendation 9: A postal course should be developed in preference to a workshop course for ALL staff whether or not they live in remote areas.*

                                                         Comments:

    1 The workshop would definitely make sense if travel to it were easy to arrange

    2 The workshop would probably be better

    3 No opinion

    4 The postal course would probably be better

    5 The postal course would definitely be better for all staff.

Thank you for completing the questionnaire. Would you please return it to me as soon as possible at:

Department of Education,
1 Lilybank Gardens,
University of Glasgow,
Glasgow, G12 8RZ.

Gilbert MacKay
January, 1979.

Appendix A

APPENDIX B

This appendix contains the "pen-portraits" used to test the
original five-stage framework. Reference to this exercise
appears in Chapter Fourteen. Respectively, the children
referred to in Appendix B were at Stages 4, 3, 1, 2 and 5 of
the original framework.

Audrey

Audrey is five years old and is a popular child with the
school staff. She likes joining in activities such as music
and movement, which she performs with no difficulty at all,
and she can carry out many of the traditional nursery school
activities, such as brick-building and formboard assembly,
which are designed to give practice in co-ordination.

She likes looking at large, colourful pictures in which a
lot of activities are taking place, and her parents and
teachers have used this interest in pictures to find out how
many words she can understand. They have built up a
collection of about thirty picture cards which they hand to
her, two at atime, and ask her to point out one of the
objects depicted. She can do this correctly for about twenty
of the cards.

She can understand and carry out a number of simple
commands, and will fetch familiar objects which her teacher
asks her to pick up round the room. Sometimes these
directions still have to be backed up by gestures. Just
recently, Audrey has begun to produce a few sounds which her
parents and teachers want to call words. They are "ma" (for
("Mummy"); "daddy" (for any adult male); "ooss" (for any
drink, including "juice"); and "ess" (for "yes").

At what Stage is Audrey communicating? The table on page 4
of Manual 1 will help you!

Brenda

Brenda is six years old and takes a lively interest in the
world. She has her favourite toys and seems particularly
fond of a large rag doll. However, the doll is simply
something which she likes to hold onto for its soft feeling:
she has never been seen to put it to bed or to play with it
in any other way as if it were a real baby.

Brenda waves good-bye to her parents when she gets on the
bus in the morning, but only after they have waved to her
first of all.

She has never been heard to speak any words, though she
does sometimes produce sounds which are very like echoes of
words which have just been spoken by someone near her, and
she enjoys games like "Old MacDonald" in which animal noises
are produced. Brenda´s understanding of adult speech is
increasing; she turns her head when her name is mentioned,
and she can follow simple directions such as "Sit on chair",
though it still helps if these are accompanied by gestures.

At what Stage is Brenda communicating? The table on page 4
of Manual 1 will help you!

Chic

Chic sits supported in a wheelchair all day. He cannot lift
up his head, and his arms are held tightly to the middle of
his chest, the wrists touching. He makes no vocal sound

other than the occasional random gurgle. When food is put
near his mouth his tongue and lips will move feebly, but
this is his only obviously responsive behaviour. He does
smile if his face is stroked or if someone baby-talks close
to him, but this smile is a very weak effort and is never
accompanied by any vocal sounds; occasionally it is produced
for no apparent reason at all. Chic does not appear to take
an interest in objects and people moving near him; indeed no
one knows whether or not he can see. Nothing much is known
about his hearing either; he is sometimes startled by loud
noises, but no more than this can be stated with any
confidence.

At what Stage is Chic communicating? The table on page 4
of Manual 1 will help you!

David
It's quite disheartening to work with David. He is eight
years old now, but all he seems to want to do is sit around
all day. He smiles quite frequently when an adult pays him
extra attention and he will make irritated cries when one of
the more obstreporous children tries to upset him. He could
be said to be toilet-trained – more often than not he is
clean and dry, but this is thanks to the efforts of his
parents and the school staff, as he himself would give no
indication of discomfort. He will pay attention for a moment
when an adult tries to catch his interest with a new piece
of equipment or activity, but this interest wanes after a
few seconds, particularly if the activity is a game like
Peek-a-bo in which the attention-catching object vanishes.
He has never been seen exploring, like other young children;
at home and school, adults try to give him an interesting
world, but he does not seem to want to come out to meet it.
David will hold his feeding spoon passively and will not
take it in his nouth of his own accord. Occasionally he has
been seen looking at an object and turning it over in his
hands, and this has happened more frequently since he began
to walk, which was about three months ago.

At what Stage is David communicating? The table on page 4
of Manual 1 will help you!

Eileen
Eileen looks like a very normal six-year-old but she attends
a school for the severely mentally handicapped because of
her very late development of speech (her first words were
heard only six months ago) and her extremely withdrawn
behaviour. She has now been at school for nearly two years,
and the staff have been pleasantly surprised to see her
shyness breaking down little by little. The key to success
seemed to be to give her many picture puzzles and matching
games, and activities which required her to make fine finger
movements, tasks at which she was really quite skilled.
Eileen could understand more of what was said to her than

people realised at first, and she can now cary out many simple directions correctly, including going to another room to fetch something for her teacher. As her confidence with other people has increased, she has begun to say the occasional word, and now has a total of about thirty single words which she uses regularly to name objects and to make her wants heard. Once, she did say "No juice" when she had just finished her drink, but that has been the only evidence of connected speech so far.

At what Stage is Eileen communicating? The table on page 4 of Manual 1 will help you!

APPENDIX C

APPENDIX C

Rating scale on characteristics of the development of communication

UNIVERSITY OF GLASGOW

DEPARTMENT OF EDUCATION

EARLY COMMUNICATIVE SKILLS PROJECT

(April, 1980)

An important part of the E.C.S. Project is helping school staff to find suitable lesson activities for the wide range of children who have little or no speech.

The checklist in this booklet contains 36 descriptions of children. We think that some (perhaps all) of these descriptions could act as signposts, pointing the way to the different kinds of activity which would suit the needs of a variety of children.

We would like you to complete the checklist for one or two of the children you know. Some advice on how to fill it in is given on the next page.

PLEASE USE A SEPARATE CHECKLIST FOR EACH CHILD.

Appendix C

WHAT CHILDREN DO WE WANT TO KNOW ABOUT?

Any children who have little or no speech are of interest to the project.

By "little speech" we mean children who sometimes put two words together to make short sentences such as "juice done".

By "no speech", we mean even those children who are so profoundly handicapped that they seem to be very nearly asleep all day long.

You can see, then, that there is a wide range of children between those extremes.

HOW IS THE CHECKLIST MARKED?

Put a circle round one of the numbers beside each question:

circle 1 if the description does not fit the child at all

    " 2 " "   "   does not fit the child very well

    " 3 " "   "   fits the child sometimes

    " 4 " "   "   fits the child quite well

    " 5 " "   "   fits the child very well.

ANY OTHER INFORMATION?

Please ring the child's sex here   GIRL/BOY

Please write the child's age here   ....

We shall be quite pleased if you would write your name, position and school below, but that is not essential. However, we do not want to know the child's name.

NAME   ....

POSITION   ....

SCHOOL   ....

1	Speaks single words	1	2	3	4	5
2	Makes no response to efforts to catch his/her interest	1	2	3	4	5
3	Seems as if he/she is asleep even when his/her eyes are open	1	2	3	4	5
4	Most severely mentally-handicapped	1	2	3	4	5
5	Some of his/her words do not mean exactly what they would do if an adult said them (e.g., all men are "daddy", all four-legged animals are "dog" or "horse", etc.)	1	2	3	4	5
6	Shows some sign of recognising familiar people	1	2	3	4	5
7	Carries out a few commands which are not accompanied by gestures	1	2	3	4	5
8	Sometimes takes a look at what is going on about him/her	1	2	3	4	5
9	Takes some interest in his/her surroundings	1	2	3	4	5
10	Does not understand words					
11	Uses "words" of his/her own in a meaningful way	1	2	3	4	5
12	Picks up objects or takes them to his/her mouth	1	2	3	4	5
13	Imitates vocal sounds made by other people	1	2	3	4	5
14	Turns towards unexpected sounds	1	2	3	4	5
15	Sometimes tries to attract attention	1	2	3	4	5
16	Understands a few adjectives e.g., "big", "hot", "wet", "dirty"	1	2	3	4	5
17	Imitates actions of other people	1	2	3	4	5

Appendix C

18 Speaks lists of words that do not   1   2   3   4   5
    sound quite like sentences, e.g.,
    "man, dog, boy"

19 Seems unaware of his/her   1   2   3   4   5
    surroundings

20 Uses hand-signs or other movements   1   2   3   4   5
    (e.g., head-shaking, head-nodding)
    to put meaning across

21 Sometimes combines "no" or "all   1   2   3   4   5
    gone" or "all done" with other
    words, e.g., "no juice"

22 It seems as if nothing can be   1   2   3   4   5
    done for him/her

23 Understands the simplest   1   2   3   4   5
    commands (e.g., "stop it", "sit",
    "come here", etc.) especially
    if they are accompanied by
    gestures

24 Can point to pictures of objects   1   2   3   4   5
    or actions when asked to do so by
    an adult (e.g., "show me the baby")

25 Sometimes combines "my" with   1   2   3   4   5
    other words

26 Seems to recognise a particular   1   2   3   4   5
    tune or type of music, or some
    other special sound such as a
    bell or rattle

27 "Echoes" sentences (or large   1   2   3   4   5
    sections of sentences) spoken by
    other people, but speaks few (if
    any) of his/her own

28 Bedbound (or wheelchair-bound)   1   2   3   4   5
    AND lifeless

29 Copies the gestures of other   1   2   3   4   5
    people

Appendix C

30	Seems to recognise the names of a few objects	1	2	3	4	5
31	Has combined a naming word with an action word, e.g., "Daddy down", "me kick"	1	2	3	4	5
32	Gives himself/herself directions that other people have given him/her	1	2	3	4	5
33	Keeps himself amused if left on his own	1	2	3	4	5
34	Sets toys in motion	1	2	3	4	5
35	Seems to recognise the voice of some people more than others	1	2	3	4	5
36	Pats, or hits, or shakes objects	1	2	3	4	5

APPENDIX D

Project submission for Lanarkshire outreach

Early Communicative Skills
Lanarkshire Outreach

Summary
It is proposed to employ ten young people who have recently qualified as teachers but who have yet failed to obtain a teaching post. These young people would introduce a newly-developed package of curriculum materials to a group of Lanarkshire schools for the severely and profoundly mentally-handicapped. This outreach programme would inform permanent staff about the new materials, and would enable the materials to be evaluated in practice.

The outreach programme would also give the young people valuable experience. They would be able to exercise professional skills which they acquired during teacher-training, and they would broaden their horizons about learning and the role of the teacher.

Introduction
The Early Communicative Skills (ECS) Project is based at the Department of Education, University of Glasgow and has been in progress since September 1978. The Project is funded by the Scottish Education Department and the Mental Health foundation.

The Project proposes a new approach to in-service training for teachers and instructors of the mentally handicapped. A training package of materials has been developed for use in school-based curriculum development. The aim of the package is to encourage teachers and instructors to devise their own schemes for developing the skills of communication in severely and profoundly mentally-handicapped children.

The most advanced children the Project is concerned with are nearly able to speak sentences of two words in length. The most handicapped make little or no response to people and objects in their surroundings.

The package will be largely self-instructional, though it will normally be introduced to teachers and instructors through the medium of tutor-led workshop groups.

A draft set of teaching materials was prepared during the first eighteen months of the Project. These materials were piloted in four schools in Strathclyde Region between February and June 1980. The pilot study provided guidance about what teaching materials would be most likely to be useful to teachers and instructors. Consequently, a revision of the draft materials was carried out, and this revision will form the major outcome of the Project.

Proposal
It is important that the investment which has been made in the ECS Project should not be lost through inadequate publicising of the materials. Moreover, a preliminary survey of staff opinions and subsequent reaction to the draft materials have shown that the Project meets a needs in the

development of a genuinely <u>educational</u> curriculum for children with the most severe learning difficulties.

Therefore, we propose that an outreach programme should begin in the Lanark Division of Strathclyde Region at as early a date as possible. This programme would take advantage of the availability of qualified teachers through the STEP scheme, both to publicise the ECS materials in Lanarkshire and to assist in making an evaluation of them in practice.

Deployment of assistants on outreach programme

Ten recently-qualified teachers who had been unable to obtain permanent posts would be required as assistants for the programme.

Each assistant would be expected to take an interest in at least three severely or profoundly mentally-handicapped children. The majority of these children would be pupils of schools or hospital-based units in Lanarkshire, although, exceptionally, some might be based permanently in their own homes.

The assistants would work under the supervision of registered teachers in the schools, teaching units or peripatetic service. The main aspects of their work would be as follows.

1 Producing an implementing schemes of work based on the ECS materials for each of three individual children.
2 Introducing the ECS materials to the supervisory teachers, and providing a link between these supervisory teachers and the ECS Project at the University of Glasgow.
3 Visiting the homes of the individual children to explain the ECS scheme of work, and to coordinate the efforts of parents and permanent school staff.

Training of programme assistants

The assistants would be given instruction about the ECS materials and about the practice of working with nonverbal severely and profoundly mentally-handicapped children.

The instruction would be given by Mr. Gilbert MacKay, research assistant on the ECS Project, and would consist of two main phases.

The first phase of instruction would be an introduction to planning and implementing schemes of communicative activities for the nonverbal mentally handicapped. The proposed content of this instruction appears in a separate paper.

The second phase of instruction would be a series of weekly workshop sessions. These sessions would be used to review progress, to discuss difficulties in implementing the activities, to plan new work and to prepare teaching materials. A comprehensive list of materials which the assistants might use appears in a separate paper.

Assistants would keep records of their work with children, using diaries and standard forms. Copies of these records would be made available to the MSC when the final report on the outreach programme was submitted.

Base of the outreach programme

   The programme would be based at Hamilton College of
Education. The College is conveniently situated for access
to schools in the most densely-populated areas of
Lanarkshire.

   Hamilton College has two further advantages. First, it
would act as a base where assistants would receive initial
training in the ECS materials and where they would prepare
their own teaching aids for work with individual children
whom they will encounter in the schools. Second, the
expertise of members of the permanent staff of the College
would be used to assist the programme assistants by helping
them in the development of their own teaching materials and
by the use of audio-visual technology in training.

Length of the programme

   The programme would run from 15th January, 1981 until 15th
July, 1981.

Concluding remarks

The proposed outreach programme would be very valuable to
the main ECS Project both as a means of disseminating
information about the Project and as a means of evaluating
it.

   However, the following effects of the programme can be
predicted with some confidence.

   1 Some severely and profoundly mentally-handicapped
     children will receive individual educational treatment
     which could not otherwise be provided. Moreover, this
     treatment will be specifically tailored to the needs of
     each child and will serve as a basis for new work after
     the end of the programme.
   2 The experience gained by the programme assistants will
     encourage some of them to be attracted to a career in
     the field of special education.
   3 The experience gained by the programme assistants will
     broaden their perspective of learning, education and the
     needs of children, whether or not they consider a
     permanent career in special education. This is in accord
     with the thinking of the Warnock Report (paragraphs 12.7
     and 12.11) which recommended that there should be a
     special education element in all courses of initial
     teacher-training.

Appendix E

Sample pages from the first set of project materials

Example	Content	Page
1	Pages from the Stage 4 ("First Words") section of the Introduction - see Table 12, Chapter Thirteen.	472
	These pages were replaced by pp. 21-22 of the Manual.	
2(i) & 2(ii)	Pages from the Stage 4 teaching activities (Lesson Handbook 6, "First Words") - see Tables 13 and 14, Chapter Thirteen.	473-474
	These pages were replaced by pp. 191-211 of the Manual.	
3	Notes on reinforcement from the booklet on teaching systematically - see Table 15, Chapter Thirteen.	475
	In the Manual, the essential information in these pages was incorporated within the notes on teaching activities (pp. 27-243) in the "Procedure" and "Teaching Hints" subsections, and within the notes on children's problems (pp. 245-277) in the "General Advice on Teaching" subsection especially.	

472

The child has been heard to produce the occasional spontaneous word.

The child can imitate vocalisations made by adults and other children.

Aims and source material for Stage 4

The development of a spoken (or signed) vocabulary of between twenty and fifty words.

The principal workbook which deals with this stage is Lesson Handbook 6, but the more advanced sections of Lesson Handbooks 3, 4 and 5 may also be worth consulting.

The early sections of Lesson Handbook 8 may give you some ideas for exercises in developing comprehension at a more advanced level which is more appropriate to the needs of some children than are the exercises in Handbooks 3 and 5.

STAGE 4

First Words

Key ideas

The child produces vocalisations which convey consistent meaning. These vocalisations may be recognisable adult words or they may be words which the child has invented himself, but which can definitely be understood as communication about an object, an action or some other idea.

Producing words and understanding words are quite different processes even though they operate hand in hand. Do not be surprised, then, if the first words a child produces are not the same as the first words he has shown that he can understand.

General notes

Whenever the term 'word' is used, it is intended to include any form of symbolic communication, such as hand-signs, as well as straightforward, spoken words. The key word is 'symbolic' - the child now makes use of specific sounds or signs to convey ideas about actions, objects, people and so on, but these sounds (and to a lesser extent, signs) bear no resemblance to what they are intended to represent. There is nothing about the sound 'dog', for example, which gives it a special right to mean a four-legged animal that barks; and there is no logical reason why the sound 'green' should call to mind the colour of grass. Yet this abstract (or symbolic) process of expressing ideas in words is one of the most powerful devices imaginable for letting us understand the world, and for letting other people understand how we see it. Pointing to objects, calling for attention, pulling people towards things we want are all very well for putting across meaning, but they involve physical effort, and very often they are mis-understood at first. How much more efficient are words; they allow us to narrow down the range of possible meanings when we are trying to communicate with other people, and they act as a code which enables us to make sense of experience by ordering it into categories rather than see life as a sequence of new and unfamiliar occurrences.

Signs of readiness for work at this stage

The child will fetch a few objects when their names are spoken to him, and will point simply when commanded ...

OPPORTUNITIES IN THE DEVELOPMENT OF FIRST WORDS

3.

The approaches described in this section make use of the fact that unforeseen opportunities for encouraging children to produce words can arise quite frequently. The first approach requires you to be attentive to the child's use of vocalisations so that you will be ready to capitalise on any of these which he may be using to put across a definite message. The second approach suggests that you should be alert to the possibilities which arise incidentally in everyday activities for the fostering of first words.

'As if' responses

This type of approach to teaching is mentioned in one or two other parts of the ECS Package. Essentially, it reminds you that there is often no harm in reacting as if a child had performed a deliberate action or had produced a deliberate sound; if you know the child well, the chances of you making a wrong assumption should be fewer than if you do not.

Aim. To enable the child to refine indeterminate sounds which may convey meaning into recognisable, functional words*.

Procedure. Make a written or a mental note of any sounds which the child produces consistently. Can you associate any of these sounds with meaning? Could he be trying to make someone understand that he wants something to be done, or could he be passing comment on something which is happening? If you can find positive answers to any of these questions, try responding to them in any of the following ways (or any others which make sense at the time):

1. Give him the thing for which he seems to be asking.

* For the purposes of the ECS Project, a 'word' is any sound or sign that is used regularly to convey a meaning which you understand. Words or signs which the child makes up by himself still count as words in our sense if you can attach meaning to them; it does not matter whether ...

2. Make a comment which continues the sense of what you think he has said.

3. If you can make no sense at all of his vocalisations, repeat the sound he has just said to see what happens; or show your pleasure at him having used his voice ('What a nice sound.')

If this is his most consistent type of vocalisation, keep notes of when or after what he says it, where he says it; and to whom (if anyone) he says it. The notes you make may help to form some ideas about why he says it, and that will enable you to do something for him or to comment on what he has said (as in 1 and 2 above).

If your ideas about what he has said turn out to be correct you can begin to shape his vocalisations towards a more recognisable form of speech. You will find some advice on how to do this in the booklets on reinforcement and the planning and implementation of teaching plans. If your ideas turn out to be wrong, you will have done no harm by being attentive to him, and you may even encourage him to produce more understandable vocalisations in future.

Examples

1. Frank's teacher noticed that he frequently produced the sound, 'Ba' if someone in the room was given a row. She began to respond by saying things like 'Yes, isn't he bad', and bit by bit he began to improve on the sound until eventually a perfectly recognisable 'bad' was produced.

2. Catherine was being taught a sign for 'drink', but she seemed to be learning with little enthusiasm and did not really produce a very good copy. One day when she was suffering from a slight cold and raised temperature, her teacher noticed that she was making the sign for 'water' in a part of the room well away from the part in which water-play normally took place. Her teacher asked, 'Do you want a drink?', and Catherine immediately replied with the signs 'drink' and 'water' - her first two-

4.

Appendix E

Opportunities in everyday activity

The unit on controlled presentation suggests that it can be helpful to select a list of specific words on which your teaching should focus, and that teaching should progress through the steps of directing the child's attention to the words, and testing to see if he has understood them. However, there are times when a word seems to be particularly interesting or important to a child, and this may let you short-circuit the teaching process.

Aim. To enable the child to bring words which seem to attract him, into regular usage.

Procedure. Make note if the child makes any strong reaction, perhaps one of amusement, to a word that you have said. Note the context in which the reaction occurred and, by repeating it, try to discover if he will imitate you.

If he makes an indeterminate response, shape this towards a more recognisable version of the correct sound.

It is possible that the best reaction you will get will be increased amusement at what he may be interpreting as you putting on an act for him. But that may be no bad thing as the change in his mood may create good conditions for a lesson directed at the production of some of the target words at which your teaching had been focused more deliberately.

We suspect that 'incidental' words are more likely to be remembered than the ones chosen deliberately as they are rather more the child's own property, but you should still give him opportunities to practise using them to ensure that they become established in his repertoire.

Examples

1. David's mother was baking. She warmed him to keep clear of the cooker because it was hot, and used the baby word 'burny' which one of her other children had produced spontaneously some years before. David

seemed to like the sound of this and said it himself. Subsequent appropriate use of 'burny' demonstrated that he had learned it as a result of no deliberate effort on the part of his parents or teachers.

2. June's teacher was trying to direct attention to a tape-recording of various percussion instruments. She did not seem to be having much success, but when she said 'Isn't it noisy?', June appeared to be attracted to the 'z' sound, and proved to be able to imitate it. 'Noisy' then became a word to be added to the target list for subsequent shaping into a full word.

REINFORCEMENT

INTRODUCTION

You will remember that the unit on the planning of teaching set you some problems on how to grade and present teaching activities. The present unit is the next step in the process, as it sets you the problem of finding ways to let the child know if he has coped successfully with the activity.

When we set ourselves a puzzle, such as trying to answer a brain-teaser in a newspaper or learning to play a difficult grouping of notes on a musical instrument, we make the three following assumptions:

we assume that we have been set a problem

we assume that there is _some_ kind of answer to it

we assume that we should have a way of finding out whether or not we have reached the correct solution - this answer may be self-evident when it is reached, or someone may tell us that our efforts have been successful.

It is not reasonable to suppose that a mentally-handicapped child makes these assumptions about the puzzles - the teaching activities - we provide for him. We can help him to realise that something different is taking place by working with special materials in a special part of the room, but his responses under those conditions are unlikely to lead anywhere unless, in turn, we respond to his responses. To put it another way, we want to let him know that he has produced a purposeful piece of activity and we would like him to be able to repeat it.

When a child does eventually have some success in a task he has been set we are likely to respond to him by showing real pleasure in our faces, and by telling him that he has done well. This is a very powerful way of feeding information about success back to the child

and of enhancing his chances of repeating the response, or even improving on it, the next time the teaching activity occurs. But the method can be made even more powerful if we pay careful attention to how we let the child know that he has been successful.

The process of letting the child know and of encouraging him to act again is often called 'reinforcement'. This is the term we shall use in the ECS Project booklets for the sake of consistency, but if you come across 'feedback' (for example in Jeffree and McConkey, 1977) you can usually assume that the same topic is being discussed.

Why bother with any jargon at all? Well, apart from the fact that 'reinforcement' is more quickly read and written than 'letting the child know and encouraging him to act again', there is the very serious point that some people use the terms 'reinforcement' and 'reward' interchangeably. Many reinforcements are of course like rewards in that they are pleasant things to receive for a job well done. But that is not the point. Reinforcement is a deliberate, planned action which occurs at a specified time after a child has taken part in a piece of activity, and it is aimed at affecting the subsequent appearance of that activity.

Moreover, teachers who think in terms of 'reward' are very inclined to hold back from reinforcing (especially if edible reinforcements such as Smarties or ice-cream are used) because the child has not done anything to 'deserve a reward'. This attitude is quite incorrect; you reinforce so that you will have an effect on the occurrence of future behaviour, and whether or not the child deserves anything does not enter into it.

APPENDIX F

Alternative Evaluation Strategy

Introduction

This appendix contains a proposal of an alternative to the Lanarkshire outreach as the final evaluation of the project. The proposal is more complex than the evaluation in the outreach, for it has a broader remit than examination of the manual. Instead it is an examination of curriculum and professional development aimed at enabling teachers to adopt the ideas of the manual.

Outline

The proposal is that school-based inservice courses should have been organised in the schools visited by the outreach assistants. This would have focused the attention of the entire staff on their own professional development instead of on the efforts of an inexperienced teacher working with a very small number of pupils. The exercise might have been conducted in one school, but a group of four (as in the pilot study) would have been useful to see if any general principles emerged within and among such heterogeneous groups.

The overall purpose would be to study the development of new practices among teachers taking part in an exercise in professional development. The study would be concerned with if, when and why adoption of new practices took place, and with the diversity of forms they might take as the exercise progressed. The exercise would also be used as a means of evaluating the revised E.C.S. manual, by attempting to

answer questions such as those which are posed in the "Aims of the outreach" at the start of Chapter Eighteen.

The form of the proposed study is a sequence of four phases derived from Malcolm Skilbeck´s model of school-focused curriculum development (Reynolds and Skilbeck, 1976; Skilbeck, 1984). This model is helpful as its sequence of stages shows that curriculum development is a process, and as it identifies phenomena which curriculum innovators should recognise if they wish their innovations to affect practice.

The proposed study would also make use of a device considered in Chapter Seventeen - the taxonomy of objectives in the affective domain (Krathwohl et al., 1964). Indications of how the taxonomy might be used to evaluate teachers´ levels of attainment following inservice exercises are provided in the "Early Communicative Skills examples" columns of Tables 28A-28E (Chapter Seventeen). Reference to attainments in terms of the taxonomy also appear in passing in the report on the Lanarkshire outreach (Chapter Eighteen).

It is possible that ratings assigned to staff on the basis of the taxonomy might be used for statistical comparisons in the more experimental approach to evaluation which is proposed below. In such cases, inter-rater checks would be carried out on the reliability of measurements.

PHASE 1

<u>LABEL</u>
Situational analysis

<u>TASKS</u>
The purpose of this stage of the process is to understand
"the interacting elements which need to be taken into
account" (Reynolds and Skilbeck, 1976, p. 113) when
preparing a design for learning. Skilbeck lists a number of
"external" and "internal" elements (ibid. p. 114) from which
the following selection is especially relevant to this
investigation:

   the pupils and their needs;
   the staff - their skills, experience, and attitudes;
   the traditions of the school, including its openness to
   development;
   material resources;
   perceptions of problems and shortcomings in the existing
   curriculum.

All of these factors would be taken into account in the
following three areas of investigation.

1 Analysis of the place of communication in the current
  curriculum of the school.

2 Analysis of staff´s perception of their needs and level of
  development in the teaching of communication.

3 Analysis of staff´s responsiveness to innovation.

Quantitative and qualitative data would be obtained from the
procedures below. They would be summarised as a report which
would yield a picture of participants´ stage of development
in the teaching of communication at the start of the course.

Similar procedures would be used at the end of the course,
at Stage 4. Therefore these data would also provide a
(primarily qualitative) baseline against which some of the
outcomes of the course would be judged.

<u>ISSUES CONSIDERED AT THIS STAGE OF THE PROCESS</u>

1 **What is the place of communication in the curriculum of**
  staff undertaking the course?

   <u>Procedure</u>
   Examine school documents for **specific references to the**
   teaching of communication. These documents would include
   timetables, policy statements, records of work, forward
   plans, pupils´ files and home-school diaries.

Appendix F

The aim would be to discover the extent to which communication had an established place in the curriculum of the school, and the level of development of this place. Simple quantitative information could be obtained by recording frequencies of references to the teaching of communication across a wide range of documents. But the search could also be carried out qualitatively. For example, the researcher would be interested in references to planned, regular teaching of communication; to concern that communication was seen as a useful tool rather than as a series of exercises (see Chapter Eight); to the deliberate permeation of the teaching of communication through all areas of the curriculum; and to systematic monitoring of pupils' progress.

These qualitative data would be examined, using the affective domain taxonomy (see Chapter Seventeen), to determine the staff's level of adoption of new practices in the teaching of communication.

2 **How is communication taught in the daily practice of** course participants?

Procedure
Use a standard schedule to discover **how participants** undertake the three aspects of practice covered in "Early Communicative Skills": identifying pupils' level of communicative development; curriculum content - choice of activities and other experiences for promoting communication; teaching style, including the participants' response to pupils with difficult behaviour.

The schedule would be based on questions asked during the first round of interviews in the Chapter Seven survey. It would include questions such as the following selection from Appendix A.

Identifying levels

A9 Do you think that there are any comunicative skills which can be developed in your children? (Why?)
A6 How do you decide on a choice of approach for teaching communication with a specific child?
B3 What (if any) assessment charts do you use? What do you think are their strong and weak points?
B4 How often do you use the charts? How long between assessments? What happens to the charts in the interim?
B5 Do you know why that particular chart is in use?
B6 Are there any other charts you've heard of which you think would be useful?
B7 Do you use any other form of assessment (e.g., intuition, standardised tests, baseline charting)? If

you do, what do you think of your system?

B8 Are new assessment procedures needed? In what ways should they be different from what you have now?

Curriculum content

A1 What techniques (or materials) have you found useful when trying to develop children's communication?

A5 Do you have a scheme of work for communication? Do you need one?

A8 What communicative skills are you trying to develop?

A11 What communicative activities do you carry out with children who have no recognisable speech?

A12 Do you work with any of the sign systems of communication? Why (not)? What do you think of them?

B2 Is there any project on which home and school work together in developing children's communication?

C4 What group activities take place in school?

C6 Are there regular (e.g., timetabled) lessons in communication?

D6 What sources do you consult if you are looking for advice or new ideas? Are there periodicals, books or libraries which are particularly helpful? Is it difficult to gain access to these sources?

Teaching styles and pupils' problems

A10 What do you find difficult or purposeless when trying to develop communication?

B1 What contacts with the children's family are useful in helping to plan school activities? Do you have too much/too little/no contact with parents?

C3 Does 1:1 teaching occur? When, and for what purposes? Where (main classroom or withdrawal room/area)?

C5 Are any children excluded from group-work? Why (not)?

3 **How open are the staff to professional and curriculum** development?

Procedure
Use Tollan's (1983) rating scale to estimate **the** receptivity of the staff to innovation.

PHASE 2

LABEL
Goal formulation.

TASKS
The situational analysis of Stage 1 would be used to help
staff to set goals for their participation in the course.

Reynolds and Skilbeck (1976) note that goal formulation need
not refer to ends or outcomes for they are "frequently
beyond and outside the processes of learning and teaching".
Goals may also be thought of as "qualitative aspects of
learning experience which will manifest themselves
progressively". Telling teachers "to specify all their goals
in advance, in terms of discrete items of measurable
behaviour, is fatuous" (p. 110).

ISSUES CONSIDERED AT THIS STAGE OF THE PROCESS

1 **What are the general goals of the course participants?**

Procedure
Staff would receive reports on the situational analysis
and the "Early Communicative Skills" scheme. These reports
would be discussed at staff-meetings, after which staff
would record a statement of the goals they would hope to
attain by taking part in the course. The extent to which
these goals were achieved or modified would be reviewed at
Stage 4.

2 **How do participants expect that their response to**
individual pupils may be developed by the course?

Procedure
Participants would select one (or two) pupils for special
study during the period of the course. No special criteria
for selection would be required other than that the
pupils' standard of communication should fall within the
"Early Communicative Skills" range. As with the selection
of general goals, the selection of pupils for special
study would depend on the needs and interests of the
individual participant.

Staff would be asked to record their reasons for their
choice of pupils to study, and to make a statement of
desirable outcomes for them which might result from the
course.

Staff would be asked to make a written statement of

1 why these pupils had been selected for study;

2 the outcomes they hoped might be achieved for the pupils

as a result of the course.

The affective domain taxonomy (see Chapter Seventeen) would be used to rate the staff´s level of development of ideas about communication, as disclosed by their statement of goals.

All documentation referring to the pupils during the course would be reviewed at Stage 4. The extent to which goals were achieved or modified would be noted.

PHASE 3

LABEL
Programme-building, interpretation and implementation.

TASKS
Skilbeck distinguishes between a third stage, "programme building", and a fourth, "interpretation and implementation". The major part of programme building is the "selection of subject matter for learning" (Reynolds and Skilbeck, 1976, p. 110). That task has been completed in this study as a result of compiling the "Early Communicative Skills" scheme and manual. The remaining parts of programme building concern the resourcing of the innovation, and they may be considered conveniently with the tasks of interpretation and implementation.

Reynolds and Skilbeck state that there are two principal tasks at the stage of interpretation and implementation:

1 "identifying difficulties and possible resistance"

2 "planning the resources and organisational changes that might be needed".

Both of these areas are relevant to the proposed study as complications are likely in an exercise which combines a course for teachers with the development of new work for pupils and the gathering of information for the purposes of research. "(I)t is important to anticipate difficulty rather than to trust to the experience and goodwill of others or one's own native wit and judgement" (All quotations from Reynolds and Skilbeck, 1976, p. 112).

ISSUES CONSIDERED AT THIS STAGE OF THE PROCESS

1 **What practical difficulties are the course meetings likely** to cause in the running of the school?

   Procedure
   Discuss the above question with the headteacher, or at a staff-meeting, and come to a decision on days, times and rooms where meetings may occur without disrupting the running of the school unnecessarily.

   Tutors/researchers would keep field-notes about the decisions as the initial plans may change with time. Teachers' behaviour during the workshop may be important for the evaluation. For example, the behaviour modification "walkout" reported in the pilot study (Chapter Fourteen) drew attention to a matter which required better planning. But the willingness of staff in Schools C and D to have workshop meetings before the start of the school day, or to encroach on their break time was

a behavioural confirmation of verbal statements that the participants had found the workshops valuable.

2 How should staff be involved in the monitoring of the course?

Procedure
Pre-course meetings of staff and tutors/researchers would be used to secure the staff's agreement:

a to keep written records of their participation in the course through existing documents of the school such as records of work, forward plans, home-school diaries, etc.;

b to let researchers have access to these records.

It is possible that the need for some new type of recording procedures may emerge in the staff meetings. These would be designed by staff and tutors/researchers working in cooperation.

Quiltich (1975) advised that "consequated" instructions were an important aspect of successful staff training. Therefore each participant would be asked to set herself/himself a task at the end of every meeting of the course, and to report back on these tasks at subsequent meetings.

The routine class-records and the records of work on the consequated outcomes would be reviewed at Stage 4.

3 How will the course respond to the need for additional resource material?

Procedure
The meetings of the course itself would be used to discover if additional resources are needed as it is not possible to predict in advance what they may be. Three types of additional resource were needed during the pilot study and the Lanarkshire outreach:

1 materials which were not held in the stock of the school;

2 information which was beyond the scope of "Early Communicative Skills" and which was usually found in academic libraries;

3 models of effective practice which might be found in videotape or tape-slide examples, or by the tutor and individual participant arranging times to work together to discover effective practice with the pupils in the classroom.

The tutor would keep a record of all resources which were provided, the reasons for providing them and, if appropriate, the outcome of making provision. These notes would be reviewed during the analysis of information at Stage 4.

PHASE 4

LABEL
Monitoring, assessment, feedback and reconstruction.

TASKS
Reynolds and Skilbeck indicate that it is inadequate "to
confine ... evaluation to an assessment of pupil learning".
They list several possible tasks to be carried out, of which
the following two are appropriate to this investigation.

1 "Assessing a wide range of outcomes, such as ... reactions
   of other teachers, and the impact of the curriculum
   changes on the school organisation as a whole".

2 Keeping records of "the response of a variety of
   participants (and) not only those most directly involved
   in the change".

(Quotations from Reynolds and Skilbeck, 1976, p. 112.)

These tasks contain the essence of the formative and
summative assessment of the innovation.

The underlying procedure for answering the questions of this
stage is a "triangulation" of approaches (Cohen and Manion,
1985, Ch. 11). Triangulation lets the question be understood
in various different contexts, so that themes may be
identified in more than a single set of information. Shipman
(1976) and McCormick and James (1983) advocate this
technique as a means of increasing reliability especially
when qualitative information may not be treated by
statistical analysis.

ISSUES CONSIDERED AT THIS STAGE OF THE PROCESS

1 **How did the innovation affect the practice of the staff
   involved?**

Procedures
1.1 Participants would be **interviewed** to discover their
    perception of the effect of the course on their
    practice.

   a **Interview Schedule 1** would be carried out with all
     participants at the end of the course. Responses would
     be tape-recorded and transcribed, and a report would
     be written on the information in the transcription.

     The affective domain taxonomy would be used to rate
     the level of development of responses which appeared
     in the process of examining the transcripts.

Appendix F

b The interview schedule would be used with the same group of participants **six months after the end of the** course to discover if any enduring changes in practice had occurred. Some minor alterations would require to be made to the initial schedule to take account of the passage of time. For instance, Question 1 would be altered to discover the extent to which the adoption of practices had developed.

1.2 **School documents** specifically related to the work of the course would be examined. In particular, the following documents would be expected to yield useful information.

a There would be notes on the **"consequated" tasks** (Quiltich, 1975) which participants set for themselves at the end of each meeting of the course, and on the outcomes of these tasks.

b **Documentation relating to the case-study pupils** during the course, and six months after it, would be examined. The documents would include classroom notes of pupils′ progress, home-school diaries and individual lesson plans. The creation by participants of any new types of documentation during or after the course would be noted also.

Information obtained from the documents could be expected to illuminate issues which appeared in the interview transcripts, and might even draw attention to issues which had not been discussed in the interviews. Also, differences of substance between the contents of these documents and the interview transcripts might emerge, and these would require to be investigated further.

1.3 The selection of **documents examined in the Situational** Analysis (Stage 1) would be examined again for the period covered by the course, and at six months after the end of the course. The information provided by this procedure would illuminate issues identified in other procedures of this Stage. It would also provide qualitative information for a before-after comparison with the information obtained from Procedure 1 of Stage 1.

A comparison of this material with the equivalent pre-course material would be made, using the affective domain taxonomy as a guide.

1.4 A variety of sources of **incidental information** would be available if participants and tutor had had agreed to keep field-notes during and after the course. These notes would provide details of incidents and comments affecting pupils or staff which had involved parents,

visiting professional staff, school and bus attendants, tutors and the participants themselves. Information obtained by this procedure might help to corroborate or confound evidence of change which had appeared in other procedures of the study.

2 To what extent was the workshop, i.e. the medium of delivering the innovation, an aid to professional development?

Procedures
2.1 Participants would be **interviewed** to discover their perception of the value of the workshop approach.

a Interviews, structured by a standard schedule, would be carried out with all participants at the end of the course. Responses would be tape-recorded and transcribed, and a report would be written on the information in the transcription. Similarly, any coding of conceptual groupings which emerged in the analysis of transcripts would be checked for reliability if data were to be manipulated quantitatively on the basis of this analysis.

b The interview schedule would be used with the same group of participants **six months after the end of the course** to discover if attitudes about the merits of the workshop approach had changed in the intervening period.

2.2 Tollan's (1983) questionnaire on the **receptivity of staff to innovation** would be administered at the end of the course. The aim would be to discover if the questionnaire could identify any pre-course/post-course differences in the participants' attitude towards professional development. The questionnaire would be administered again six months afterwards, to obtain a more long-term index of the status of attitudes.

2.3 Sources of **incidental information** would be be used to check the opinions expressed in response to the interview schedule.

Field-notes might refer to participants' spontaneous comments on the merits of working together as a team, but more tangible outcomes could also be expected. For instance, the headteacher of School C in the pilot study (Chapter Fourteen) remarked that her staff had begun to arrive at school earlier in the morning as a result of the course, and could frequently be heard discussing teaching points with each other. Similar outcomes might be the use of the use of staff-meetings to plan developments in recording procedures, rather than have such changes made by design and decree of the

headteacher.

It would also be important to investigate these incidental sources for evidence of teachers using the workshop as a springboard for pursuing their own lines of development. This would be expected on the basis of Stenhouse's conviction (discussed in Chapter Nineteen) that genuine curriculum development produces personal professional development.

3 How useful was the ECS manual to the participants?

Procedures

3.1 The categories which were used to gauge the reaction of the outreach project assistants to the manual (see Table 29) would be the basis of an **interview schedule** which would be carried out with all course participants at the end of the course. Responses would be tape-recorded and transcribed, and a report would be written on the information in the transcription.

3.2 **School documents** such as records of work, forward plans and home diaries would be examined for specific reference to the content of the manual. Examples might include reference to the five-stage scheme of development, to page numbers in the manual or to concepts such as "as if" responses which readers would have encountered in the manual.

Information obtained from these sources would be treated in a similar way to that in previous sections.

3.3 **Incidental information** recorded in field-notes would be used to complement the picture of participants' responses to the manual.

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