

Distinction between Fundamental and Exploitative Understanding

(Notes for Lecture to Education & Social Services Conference)

Introduction

It is customary, if not considered obligatory, to think of communication involving humans as being primarily verbal or linguistic, and therefore it is natural to employ conventional language as the principal medium in educational practice.

However, for the teacher accustomed to teach through verbal instruction and verbal explanation, the teaching of younger children presents difficulties which increase with diminishing age, for the child with rudimentary language may have insufficient linguistic skill and understanding with which to clothe his *existing* ideas, let alone to guide him to new ones, so that a verbal approach in the teaching of a young child is more likely to exercise his language than his fundamental understanding.

Hence an approach to teaching which does not use conventional language as its primary vehicle could be of interest to those teachers and nurses who seek to facilitate the growth of understanding of the young children within their care.

I should say right away that it is not my primary intention to indicate a useful and convenient way of working with young children who are not yet ready to be taught through language; it is to draw attention to the conditions under which much fundamental understanding develops and to propose a way of teaching which can complement the more conventional approaches for all ages and stages of development and any degree of linguistic competence and literacy; however since it is the under fives who are our concern here today it seems reasonable to emphasise the application of the approach to those children in the first two or three years who often present problems to the teacher.

I must also say at the outset that although we are discussing an essentially practical business – the teaching of young children – and the principles of the approach are wholly practical in their application, it is necessary for me to begin with the theoretical aspects, postponing any description of the actual approach and suitable techniques until later.

And I must warn you at the start that the theory is not always easy to follow. On the other hand the theory leads directly to very practical – and many would say surprising – consequences which are readily applied, but only when there is sufficient understanding of the reasons for it.

Teachers, and by this I mean anyone who is consciously concerned with the welfare of the child, particularly those working with children in the nursery age-range, will soon be aware that what I am advocating is, *from the child's point of view*, already common practice by young children left to their own devices within a stimulating and opportunity-rich environment. The main difference is that under present conditions children are either left to themselves to utilise the materials and opportunities or alternatively are invited to adopt a social attitude towards the teacher, who then labels, discusses or helps to verbally associate the experiences gained. *My* object however is to increase the amount and range of experience-gains *without* creating conditions where the child selects as important those features which interest or please the grown-up, where adult-orientated success and achievement are all-important, and where understanding is equated with verbal capacity. This does not mean however that I do not recognise the importance of language as a means of facilitating the learning of a simple skill or set of rules.

Distinction between Fundamental and Exploitational Understanding

In order to pursue this idea I must first attempt to make a distinction between two rather different kinds of understanding. Observation of a baby's or young child's behaviour suggests that he first engages in a variety of particular activities, for the sheer joy of doing so, and from these particular experiences he forms or abstracts a number of more general ideas, notions or concepts which are eventually utilised as the bases of particular skills applied to some useful purpose.

First there are simple particular activities with no immediate purpose other than the pleasures which accompany them, then the organisation of this varied experience into a relatively few common patterns or concepts which, of course, continue indefinitely to develop etc., and finally appear as the 'useful' particular or exploitational skills which tend to attract the attention and interest of adults. Of course these three stages represent only the order of evolution and priority, for in any growing child all the kinds of learning are continuously going on simultaneously.

We can now rather artificially, but very usefully, divide up the young child's learning into what he does to increase his general understanding and what goes to make up his specialised understanding – that is to say into the learning which prepares him for learning more effectively in the future, as opposed to that which makes him more effective in dealing with the expected everyday problems – into his ability, for example, to separate things into classes or sets, as opposed to his ability to know where everything goes and how best and most efficiently to get them put away properly. We see that, using again our sorting example, a child may separate a mixture of things into sets for two quite different reasons. He might separate them in order that they should be

separated, when the faster and more smoothly the operation is carried out the more efficient the enterprise. On the other hand he might separate them in order to enjoy the separating (or from the learning point of view in order to learn *during* the separating) when clearly, since the end point (having 'done it') is unimportant, carrying out the activity quickly and with the minimum effort would be likely to minimise both the enjoyment and the learning.

I consider the most fundamental pathway of developing understanding, of increasing capacity for learning how to learn better in the future, to consist of the organisation of experience gained from activities pursued purely for the pleasure which accompanies those activities; where 'usefulness' and 'success' play little part, where there is no right or wrong way of doing things, where the experience is so new that it cannot yet be labelled and fixed by language, and where the opinions of others hold no sway so that social approval or disapproval are irrelevant.

The other pathway of understanding development pursues a parallel course as it branches out from the first (primary) flow of understanding wherever there is a need for the application of a special skill and where there is sufficient groundwork of experience to provide a state of readiness as well as the necessary raw materials in the form of general understanding behaviours.

Thus the understanding may be said to be of two kinds, (1) that which increases the future capacity for learning – the primary – which is very general and not in any way tied to or especially concerned with the very familiar or the expected, and (2) that which is concerned with dealing quickly and effectively with tasks and problems which have already arisen and are likely to recur, or with those situations which our teachers and parents anticipate will be met with subsequently.

Although these kinds of understanding are close relations and the second kind arises from the first, the learning which underlies them is reinforced and motivated quite differently.

All learning must of course derive from particular activities but that comprising the primary or fundamental understanding is concerned with *activity* and not primarily with the outcome or useful effects of that activity. And the reinforcement or reward accompanies *all activity*, familiarity being the main selective influence. Under these conditions all activity is reinforced or rewarded (shall we say by pleasurable sensations), and the more the activity, the more the reward. If we equate effort with the amount of activity and the amount of work done, it follows that the greater the effort the greater the reward, and since intention is guided by (or the outcome of) familiarity, all effort is rewarded. Progress in learning arises from the continual, usually small, discrepancies between what is intended and what actually occurs, which we observe as

variation in the activity. New learning takes place on the active edges of the old so that the wider and more finely-divided the earlier understanding the more rapid and more effective the gain in understanding.

It will thus be seen that motivation for this kind of learning is closely tied up with the tendency to expend effort and under ordinary conditions results in a steady exponential or explosive growth in the actual amount of activity generated.

On the other hand particular skills are generally prized for their effectiveness in producing an expected result, in a word, for their usefulness. They are the means by which the general understanding, accruing within the primary or fundamental pathway, is exploited in real life, and for most of us they appear to comprise the really important aspects of understanding. I should say that, so far as I can tell, it is these particular, exploitative or 'useful' skills which are generally considered to be the province of deliberate education.

Particular or useful skills, because their usefulness depends on their being immediately effective, are selectively reinforced from more general actions or responses - those which are effective in producing the desired effect or are recognised by an outside observer to be what is required are reinforced or rewarded, whilst those which are ineffective or are considered by the observer to be wrong are not reinforced. Unlike the other kind of learning, where all actions are reinforced, here we have a situation where a few actions are encouraged at the expense of others, the reward or *reinforcement* is the pleasure taken in the direct effect or in what follows on from the action, and *motivation** is bound up with a seeking after 'success' or achievement or the pleasing of some second person. Those skills that we class as 'social' will be seen to fall into this category.

It follows from this that for the reinforcement of many *particular* kinds of skills it is necessary that there be some clear-cut self-evident moments of achievement or an outside rewarding agent such as another person - incentive then is of the 'promised carrot' type where trying (endeavour) is encouraged by the reward that is anticipated; but there must always remain the possibility of no success and hence no reward - and this is likely to evoke a measure of anxiety.

To motivate the primary or fundamental kind of learning no carrot is necessary (nor indeed possible during the early months); what is required is the child's doing more work and expending more effort, under secure and anxiety-free conditions. The more effort the child makes the greater the likelihood he will work hard in the future.

CONDITIONS FOR GAINING FUNDAMENTAL EXPERIENCE

As has been intimated the learning which underlies the primary fundamental understanding pathway is self-reinforcing, and self-motivating, it requires no social interest (approving or otherwise) and no 'success' in the eyes of another person, it cannot be mediated through language, and does not involve the

notions of rightness or wrongness. Other people play no immediate role in its development other than as objects or as agencies equivalent to the purely physical. It takes place in fact under conditions of actual solitariness or in the presence of others when no overt social interaction is taking place.

These then are the conditions which we shall need to create deliberately when we set out to accelerate the rate of fundamental-type learning.

The distinction between the two kinds of learning and understanding is further pointed up by a consideration of the encouragement of early versus later specialisation in education.

We seem to be obsessed with having children be good at *doing particular things* paying less heed (in this) to their being able to do or to *learn how to do anything and everything*. The more we postpone encouraging the child to specialise, the more time and opportunity we give him to develop his *general ideas* unhampered by the need for them to be immediately applicable. Specialisation implies a reduction, a refinement and a sharpening of a skill to a particular purpose, and too early specialisation can obstruct the recognition of the common basic form of, and therefore the relationship between, outwardly different skills and ideas, and can sometimes lead to a preoccupation with techniques which even impede their intended useful application.

Concentration of attention on the Primary Fundamental Understanding Pathway

My emphasis on, and all subsequent virtually exclusive reference to, the development of the understanding I have called 'primary fundamental' or 'general' should not of course be taken to mean that I am suggesting that the particular shaping of behaviour to specialised usage, or that the behaviours which derive from interpersonal reactions and lead for example to concern for and attitudes of responsibility toward others, or that the whole range of linguistic skills, are *any* less important. They are simply essential aspects of a different sphere of understanding. One with which I am not concerned at this moment.

My emphasis simply follows from my conviction that:

- (1) the general understanding is the foundation and source of the specialised understanding;
- (2) the specialised, the social and the linguistic tend to hog most of the educator's attention;
- (3) there are areas of education where the social and linguistic approach are just not practicable.*

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Form of Development of the Primary Fundamental Pathway

Now let me describe very briefly the (general) form of the 'evolution' of fundamental understanding. It will be convenient to impose somewhat artificial 'stages' on the development for purely mnemonic reasons but it must be remembered that the activities and effects of each stage continue to develop in their own right as well as forming a basis for the subsequent stages.

Body image and space structuring

During the first few weeks the baby's activities look, and in many ways are, virtually random. During this time the main constraints on the form of the movements are the mechanical limitations of his body, the impositions and channelling of movements due to the 'postural reflexes' which form the basis for all future movement patterns, and the baby's endurance, or resistance to fatigue.

Under the influence of these essential constraints the bodily movements rapidly increase in total amount; as well as in density in occasional activities, they increase in amplitude and vigour, in range and variety.

This period of early movement-increase initiates the gain of movement-experience which leads to the child's understanding of his own bodily possibilities and limitations and reciprocally to an awareness and understanding of the space about him. Increase in the range and variety of a limb movement implies increase in the use of space through and by that limb, and increasing understanding of the movements implies increase in the understanding of the space through which the limb operates.

As a region of space is explored by a limb it comes to overlap the regions of use or 'interest' of other limbs so that 'attention' applied through one limb comes to coincide with that directed through other 'limbs' and so eventually, as a result of the overlap, mutual interference leads to cooperation between limbs, to the focussing of the whole 'attending' through any part of the body (the child may come to choose). This process is often called bodily integration.

The overlap between regions of interest between 'limbs' is first clearly seen perhaps at about 10 weeks and full bodily focussing of attention from about five months.

Of course at six months this focusing of attention which is very obvious shows itself as an all-or-nothing giving of attention to whatever image presents

* In the very young normal children, in children who speak a different language from the teacher, in those with severe language disorder or hearing impairment, in autistic children.

itself in a suitably explored region of spatial interest – (region of space relative to the child's body which has been sufficiently well utilised).

CHOICE, origins of

Further increase in bodily and spatial exploration increases the degree to which the space is understood and so allows gradation in the intensity of attending so that by about 9 months attention can be given and directed less precipitately, attention can be delayed and withdrawn, so making possible a choice between foci of interest.

TOOLS, origin of the use of

From this time the child can look about himself fairly freely, decide which of the things to which he has access, he wants; he can select and reject; he can change his mind. From this time too the earlier physical collisions which have resulted from the child's reaching for something new without or before releasing a held object, give way to the deliberate striking of one object against another and to the sustained pressure of a held object against another resisting surface, which leads in due course to the conscious use of tools, for example of a cup and a spoon, *as tools*.

Inertial memory and continuant behaviours

The child's capacity for prolonging actions or chains of actions implies a growing mental ability towards anticipating the culmination of an action already in train and in due course to his anticipating the realisation of an action and its outcome. This coupled with the ability to make choices between available courses of action enables the child by the early second year to choose between what he can actually see or hear or touch, and what he can remember from previous seeing, hearing or touching. From this time onwards he can move a number of things successively from one place to another, e.g. putting several stones into a bucket, etc.

CONTINUANT BEHAVIOURS

Throughout the second year by far the most important general activity leading to experience-gain and increasing understanding is that which consists basically of the action of securing, changing the position, and disposing of objects, or, put in more homely terms: Picking Up – 'Shaking' – Putting Down again. ('Continuant' behaviour)

Sometimes the 'shaking' is reduced to a minimum so that the activity consists of picking-up things from one place to put them somewhere else. Objects of various sizes, forms, densities, appearances, surface properties, and

sometimes of varying stability of form or integrity, are located relative to the child within the space about him and having been grasped are transferred to other locations (as perceived relative to himself).

On other occasions the actions involving the held object - between securing (getting hold of) and disposal, in shaking, striking, scraping - create noises, draughts, etc. as well as movements and deformations of, and local marks on, the objects and surfaces involved.

In this way the child advances his understanding of his own bodily structures and powers, of the space about him, in the objects and substances within the space and of their movements or behaviours within that space, whether these result from his touching them directly or through the medium of a held object. This latter experience, of course, underlies the later use of tools as markers, shovels, cutters, levers, hammers, spreaders, rakes, etc.

The second year may be seen as a time of enormous basic experience gain. Experience which by the early months of the third year will be beginning to be organised into a number of what I call 'learning-to-learn tools'.

These are *sorting, matching, sequencing, brick-building and drawing*; the learning-to-learn 'tools' which in due course allow the child to *sample* the environment and process the experiences more and more effectively.

Aims of teaching

If our aim is to stimulate learning of the kind I have called primary fundamental how should we go about this?

We saw that such learning is generally speaking pursued for the pleasure of the practice not for its particular usefulness in performing some specialised function so that the tasks the individual sets himself are usually quite unnecessary so far as (immediate) survival or comfort are concerned.

Furthermore the interest is in the activity rather more than in the things or the materials.

Our immediate teaching objective then is not to teach useful skills but to make it more likely that the child's subsequent spontaneous activity, during which his fundamental learning should continually be taking place, is modified in some general way.

By encouraging little bursts of increased or prolonged or more rhythmic or more connected activities we make it more probable that such changes in behaviour will occur spontaneously during the child's ordinary, all-day-long asocial play activities.

Conditions for teaching

Since *New understanding* derives from the continual organisation of experience
And since *Experience gain* results from the *active concentration of attention*,
which in the early stages, at least, means the child's attending to his own
activity and to the effects of this activity,

And since *activity* and the *focussing of attention* are both functions of the
present or previous state of the understanding, which powers and directs
all activity in relation to the environment,

it follows that the active use of the present understanding leads inevitably to
experience-gain and to changes in the state of the understanding.

And since experience-gain is self-reinforcing and self-motivating it follows -

that educational attempts to encourage the development of (that is to say
increase in) fundamental understanding, means arranging an optimal use
of the present state of understanding, together with the bodily equipment,
in sampling the environmental forces for new experience.

Since understanding derives from experience which itself derives from activity
we need to increase the total amount etc. of activity.

Since reinforcement and motivation depend on the effort expended our object is
to increase the expenditure of both physical and emotional effort.

Since selection for learning depends on familiarity of experience not on arbitrary
rules governed by an outside observer's idea of success we need to guide
activities by the use of physical 'constraints' not by approval.

Since understanding-gain derives from the activities directed toward the
environment not from achievement, attainment, completion, pleasing
someone else, etc., these achievements, etc., should be postponed and
obscured or 'blurred'.

Since new understanding happens on the edges of the old understanding and
therefore requires continual variation in action, the tolerance or range of
uncertainty set by the applied constraints should be carefully adjusted so
as not to be too narrow, when the form of the activity is too predictable
(or stereotyped), nor too wide, when the form of the outcome is
insufficiently clear, or insufficiently predictable (or chaotic).

PRACTICE

We now know more-or-less *what* we need to do and under roughly what conditions we need to do it.

The problem that remains is this:

Fundamental learning takes place under asocial conditions when the child is functionally alone but as soon as we attempt to encourage the child's learning we interrupt these asocial conditions and create the social conditions appropriate to the other kind of learning.

The problem is solved by our behaving towards the child as if we did not consciously recognise his existence – behaving in fact in the way we normally do behave towards others when we are concentrating on something else.

To put this another way:

Since the learning which leads to fundamental understanding occurs under non-social conditions it is non-social or asocial conditions which we need to create for our teaching. Hence the term *asocial approach* which I apply to this kind of teaching:

The teacher shows no overt interest in what the child is doing.

does not respond to the child's social overtures.

uses no explanatory or instructional language.

makes no comment on the rightness or wrongness of the child's actions.

gives no praise.

makes heavy demands on the child's efforts and obedience.

makes low demands on his understanding.

These conditions you will see immediately are at variance with those generally prescribed.

Other conditions which might seem to oppose common-sense but which are based on reason supported by observation are:

- tasks should not be oversimplified and certainly not broken down into steps

- interest is encouraged by prolonged but varied repetition of activities

- the concentration (of attention) of young children increases with time – within reason of course – and most children can be kept working happily at imposed 'tasks' or activities for more than an hour at a time.

Now you will have observed from the previous discussion that the child's evolution in understanding is such that every later stage (or skill) grows out of and depends upon an earlier one. Every later aspect of understanding contains, so to speak, the earlier and when an activity is exercised the activity relives or rehearses the more fundamental.

(This is not true of the pathway for *specialised* understanding.)

Therefore when we come to teach we aim at exercising the lower levels of the child's understanding – leaving the energy and momentum involved to produce an excess of variations which tends to consolidate and enrich the previous state of understanding as well as carrying the limits of the understanding forward to higher levels.

The object then is to have the child set out to do more of what he can already do, for longer, with more vigour and with more variations, etc. One aims then *not* at the child's highest levels of functioning but at all levels *below and up to* these.

Geoffrey Waldon 1978