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ABSTRACT

Presented are five papers given at a 1970 seminar on reading difficulty and the intelligent underachiever. In the first paper, Dr. T. D. Hagger discusses the concept of specific learning disabilities and stresses the trend to search for causation in organic factors within the child, the importance of early identification, and the need for providing adequate remedial instruction. F. N. Cox's paper focuses on psychological assessment for remedial teaching and concludes that assessment should identify learning needs and be periodically repeated. The consequences on initial failure in learning to read is the topic of the third paper by Hugh Esson who examines the characteristics of the adult illiterate such as high scores on performance aspects of intelligence tests. The next paper is by Angela Ridsdale and is on identification and intervention in the early stages of learning difficulties with emphasis on symptoms such as hyperactivity which the potentially learning disabled young child may exhibit. The final paper, by J. P. Phillips, on remediation programs for retarded readers, provides information on diagnosis and developing a program based on the child's individual needs and interests. (DB)

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REPORT OF PROCEEDINGS

of a

SEMINAR FOR TEACHERS

convened by

THE SPECIFIC LEARNING DIFFICULTIES ASSOCIATION, VIC.

READING DIFFICULTY AND THE INTELLIGENT UNDER-ACHIEVER.

Held at Melbourne Teachers' College and the University of Melbourne  
during 1970.

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C O N T E N T S

	Page
1. THE CONCEPT OF SPECIFIC LEARNING DIFFICULTIES	1 - 17
Dr. T.D. Hagger, M.D., B.S.	
2. PSYCHOLOGICAL ASSESSMENT FOR REMEDIAL TEACHING	18 - 23
Professor F.N. Cox, M.S. (Yale), M.A., Ph.D., M.A.Ps.S..	
3. THE CONSEQUENCES OF INITIAL FAILURE IN LEARNING TO READ.	24 - 27
Hugh Esson, B.A., Dip.Ed., M.A.Ps.S.	
4. RECOGNITION AND INTERVENTION IN THE EARLY STAGES OF LEARNING DIFFICULTY	28 - 36
Angela Ridsdale, T.P.T.C., T.Sp.T.C.	
5. SOME ASPECTS OF IMPORTANCE TO CLASS TEACHERS IN AN ATTEMPT TO PROVIDE REMEDIATION PROGRAMMES FOR RETARDED READERS.	37 - 42
J.P. Phillips, B. Com., Dip.Ed., T.Sp.T.C., Cert. Rem. Ed., (Queensland)	

## THE CONCEPT OF SPECIFIC LEARNING DIFFICULTIES.

T. D. Hagger.

As I am a public servant I must ask you please not to blame the School Medical Service - nor for that matter, SPELD - for anything I say today. I am speaking as a private individual interested in children with learning problems.

I feel honored, as a member of the medical profession, to be taking part in this seminar. The subject of "Reading Difficulty and the Intelligent Under-achiever" has a number of medical aspects, but, of course, is primarily an educational problem. I hope you will accept me as one of yourselves for the occasion. Actually I commenced my university studies as a student teacher, intending to teach science, but being a renegade I deserted after the first year.

I'll be putting before you a point of view with which some educationalists disagree. I do take comfort in the thought that the number who agree with me appears to be increasing, but the real test is whether this point of view stands up to reasoned argument in the light of your experience and observation. All that I ask is that you should try to judge this point of view on its merits rather than on its popularity or on the particular profession to which I belong. I would like us to be able to forget professional fences today, and to concentrate on our common interest - the intelligent, frustrated, under-achieving child. The part of the subject I am to speak about - "The Concept of Learning Difficulties" - is a comparatively new one to most of us, but I think we all have to take an interest in it because it's implications are so important.

Soon after I joined the School Medical Service I was struck by two things. The first one really did amaze me. That was the large number of children in Grade 5 (at that time we were doing a routine examination of children in Grade 5) who could not read beyond about Grade 1 level. I had never realised this before, even though I'd spent most of my professional life dealing with children. The other phenomenon which stood out was the large number of children who were referred to school medical officers by teachers for disturbances of behaviour, who were also failing badly in their academic work, particularly in reading. At that time I tended to regard the behaviour disturbance as being the cause of the learning difficulty. That was because of my own professional upbringing and I'll come back to that point later.

These observations were just my personal impressions of course. What we want are some facts. Well, here is one. A recent investigation found that 14% of children entering Form I in Victorian High and Technical Schools are reading at Grade III level or lower. That means they are doomed to failure in their secondary schooling by reason of their poor reading alone. That figure records

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reading difficulties sufficiently severe to "impair seriously their ultimate usefulness and adaptability to a modern society" unless something is done to provide them with proper remedial teaching. So we and the United States are alike in failing to teach reading to hundreds of thousands, or in their case millions, of intelligent children in each generation, while at the same time we insist increasingly that reading should be a pre-requisite to skilled employment.

Well, that is our first fact, and it's rather a staggering one. - 14% of our children capable of learning to read, and yet not doing so.

Here is a second fact. We have a consultant psychiatrist in the School Medical Service, who sees children referred by school medical officers, and sometimes from other sources. These children come with all kinds of psychiatric and behavioural disturbance - anything from petty stealing and school refusal to schizophrenia and other serious mental problems. This psychiatrist recently reviewed the last 100 new cases referred to her and concluded that the main cause of the disturbed behaviour in no less than 53 was the experience of academic failure due to specific learning difficulties. When Professor Clements was here last March he told us that the corresponding figure in his Child Study Centre in Arkansas was 70%. Those of you who heard him may have thought, as I did, that his Centre probably had a reputation for dealing with this sort of problem and that may have loaded the figures. So I thought you would be interested in the figure for Victoria. Of course, that figure is based on a personal judgment - it has to be. The fact is simply that that is the personal judgment of somebody well qualified to judge - half the cases of disturbed behaviour in school children due primarily to specific learning difficulties.

Now a third fact. For a good many years people in various countries - United States, Denmark, France, Great Britain - have pointed to an illiteracy rate among delinquent boys, ranging between 70% and 100%, but until recently I had not come across any serious attempt to determine the causes of their illiteracy. How much of it might be due to mild mental retardation? How much to the home and social environment? And how much, if any, to specific reading disability? A recent preliminary report of a study by Tarnopol presents some interesting facts. He investigated 102 male delinquents in California, aged between 16 and 23. He found evidence that in a considerable number of cases, even at this late age, they still displayed evidence of neurological dysfunctions of the kind which characterise children with specific learning difficulties. For instance, only 33% of the delinquents (compared with about 85% of the normal population) had a normal result on the Bender-Gestalt test. These delinquent youths also showed significantly poor performance on a test of motor proficiency, and significantly higher scores on right than on left hemisphere sub-tests of the W.I.S.C. Are you familiar with that concept of right and left brain tests? I think it was Penfield and Roberts who first pointed out that 3 of the items in the Wechsler Intelligence Scale for Children are predominantly measuring the function of the left half of the brain. Information, arithmetic and digit span were the three they chose. Another three pictures

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higher score for left as with a higher score for right, because that's the way the test is standardised. But if any individual lacks that clear dominance of the left half of the brain which occurs in the great majority of people, that individual tends to score higher on the right hemisphere test than the left. In fact about 80% of children with specific learning difficulties do have a higher right hemisphere score and the same applies to a majority of these Californian delinquents.

So our Californian delinquents display, as a group, poor visuo-motor function, poor muscle co-ordination and disturbance of cerebral dominance - three of the most characteristic features, as we will see later, of children with specific learning difficulties. Now we all know that home background is an important factor in delinquency, but evidently it is not the only factor, and it seems that important dividends may be gained from a careful study of the delinquent youth himself. If the effects of specific reading disability on personality can be modified by proper remedial teaching, who knows how big a contribution this may make to the prevention of delinquency?

I think I have said enough to make clear my first point - that we are dealing with an important problem. 10% or more of our intelligent children are not learning to read, and from this group comes perhaps a majority of the cases of psychiatric disturbance among school children and possibly also of delinquency among male adolescents.

Now let us turn to the question of why such a high proportion of children with good intelligence don't learn to read. We are all familiar enough with the traditional list of reasons - social deprivation, emotional disturbance, poor teaching, unsuspected defects in vision or hearing, and so on.

I was brought up, and I expect most of you were too, to look primarily for an explanation of behavioural disturbance in children (including disturbance of learning behaviour) to psychodynamic interpretations of child-rearing practices or interpersonal relationships within the family. If children, though intelligent, showed little achievement in learning, we were taught to look for such factors as dependence on over-protective mothers, resentment against over-strict fathers, or repressed hostility towards brothers and sisters. Of course we nearly always could find some such factor (think of any normal family you know!) especially when we started with the ingrained belief that it should be there. So we thought how clever we were and how much psychological insight we had gained. If we were teachers we could comfort ourselves with the thought that this was a job for a psychiatrist. If we were psychiatrists, we perhaps would try to transfer to the parents some of our supposed insight into family relationships. The parents' indignant reactions could then be regarded as proof of the correctness of our assumptions. (Laughter) Assumptions! That is, of course, precisely what they were. What we didn't do, was to go back and study the child himself. In the past few years a significant and growing number of people are doing just that, and that's the

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This shift of emphasis has consequences which are proving little short of dramatic, in two respects. The first is the rapid build-up of understanding of the affected children. We can now identify and recognise organic factors within the child himself which give us clues to the real reasons for his ineffectual learning - reasons concerned with his genetic make-up, with deviations of his development, or with structural changes in his central nervous system from illness or injury.

The second dramatic consequence of the new concept concerns management. If the reasons for underachievement by intelligent children are related to differences in the mode of function of the central nervous system, then the teacher can hope that an understanding of the difference in mechanisms will provide clues also to effective methods of teaching. I believe there is good evidence that with the knowledge we already possess (but on which some of us haven't yet done our homework!) a great majority of our intelligent non-readers could be taught to read reasonably normally, and thus be permitted to achieve normally in life. It is in fact the lack, in Australia, of adequate administrative and financial provision to apply these new concepts for the benefit of our intelligent under-achievers, which has led to the formation of SPELD. The parents and a group of professional workers have become seized with the urgency of the situation, and felt that it was too important to be left to what I suppose will always be slow-moving departmental changes. We have seen the same thing happen earlier in relation to other groups of handicapped children - the spastic, the mentally retarded, the autistic and so on - and the same has happened with specific learning difficulties in the United States and Canada in the last ten years.

Actually, a few people like Samuel Orton, and Anna Gillingham who worked with him in the early 1930's and continued to teach and train teachers until her recent death, and Margaret Rawson who recently published a book on a thirty-year follow-up of children taught partly by the Gillingham methods - such people have been telling the world for over thirty years that these children can be taught successfully enough for them to become productive citizens in skilled trades and professions, and even on university staffs. But the world didn't listen.

The concept of specific learning difficulties as I see it, then, leads me to the opinion that a proportion of our intelligent under-achievers - a proportion which I believe to be a very substantial majority - are children who, if we but study them carefully enough, display certain characteristics by which they can be recognised as children with a neuro-physiological difference from the others - a difference that makes the current classroom method in some way unsuitable for them. In addition, although they may learn little by existing classroom procedures, they will respond well to skilled, patient, remedial teaching, based on an understanding of their individual weaknesses and strengths.

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good trying to convince you by saying that in my experience the concept of specific learning difficulty makes many things that previously puzzled me about these children seem to fall into place. So I would like to summarise some of my more formal reasons for this belief that specific learning difficulties are a major cause of intelligent under-achievement.

First there are the Scandinavian studies of Norrie, Hallgren, Hansen and Strömngren on inheritance of specific learning disabilities. Perhaps the most convincing part of this evidence comes from twin studies. In a combined total of 12 identical and 33 unlike pairs of twins they found 100% concordance in the former and 33% in the latter; that is, when the genes were identical, if one twin was dyslexic then the other was, always. When the twins were no more alike than ordinary brothers and sisters in their genetic make-up, when one twin was dyslexic the other was so in only 1/3 of cases. The other 2/3, although subjected to a very similar environment, learned normally.

Having quoted those figures for identical twins before, you can imagine my surprise when I received a letter from a country doctor two or three months ago, asking if I would see a girl - one of a pair of identical twins - who appeared to be dyslexic. I saw them both, and it was clear that while one had a severe specific learning difficulty the other was quite clearly affected, though to a milder degree. The reason for the difference was also apparent. The severely affected one had been in a quite precarious state at birth. She weighed little more than 1 kilogram, compared with her sister's 3; she was exposed to brain damage from anoxia and she had had several convulsions. They are both highly intelligent girls, and the one without the extra handicap of brain damage was finding her way around her perceptual problems with the help of good classroom teaching. The other, with the same teaching, was failing badly.

That brings me to the second argument for organic causation of most reading difficulties, and also to an interesting sidelight on a study by the Czech authority on specific learning difficulties, Matejcek. This second argument concerns the effects of minor brain damage. Kawi and Pasamanick, in the United States, took a group of boys with normal I.Q. and severe reading problems, and found that these boys had been subjected to a much higher incidence than normal of events near the time of birth which would be likely to produce minor brain damage. I'm not suggesting that all specific learning difficulties are due to brain damage - only that some appear to be so caused. But if such disabilities can be caused by damage to certain nerve cells, then it seems likely that imperfect or delayed development of those same nerve cells can cause similar effects on learning behaviour.

Now this is where Matejcek comes in. Although the frequency of minor brain damage as an antecedent to reading failure has been well known for the last fifteen years, it has not been altogether clear why brain damage should affect some, but only some, children in this particular way. Matejcek produced evidence that there is genetic predisposition which makes some particular aspect of brain

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with her sister the inherited predisposition to specific learning difficulty and not to epilepsy. Following her brain damage, though there were some early fits, the real and lasting disability was the one to which she had the genetic predisposition, namely specific learning difficulty, or developmental dyslexia.

Could we have the first slide? I'd like to return to the main argument. This is a slide of a graph that was published in the journal Pediatrics in 1962 by Wiener. It shows the sort of way in which minor brain damage does affect function in children. One of the causes of minor brain damage is prematurity at birth and a statistical index of prematurity is birth weight. Along its horizontal axis, this chart plots birth weight and you'll see that there are three points chosen, representing on the left, children of normal birth weight; in the middle, children who are moderately premature; and on the right, those who are severely premature. You will see that IQ and socio-economic status are quite well matched in the three groups. The bottom line on this graph represents an index of brain damage. It shows that these babies are subjected to more brain damage as they become more premature. And the other one shows the effect on the Bender-Gestalt test done at 7 years of age, and you will see how that runs more or less parallel with brain damage, whereas IQ remains constant for the three groups of babies. These were tested at the age of 7 to show the eventual effects of minor brain damage at birth. While that slide is there I would like to point out something else. It emphasises the fact that with advances in medicine producing a higher salvage rate among babies from complicated pregnancies, we can expect a continuing increase in numbers of children with specific learning difficulties. Our 14% may in fact be going up.

The third main argument, to my mind, for thinking that poor reading achievement in intelligent children is usually due to organic factors, is this. If you take a group of intelligent children with reading difficulty, a high proportion of them will be found to display some of the so-called "associated features" of specific learning difficulty. I will mention these in more detail later, but I mean such things as lack of awareness of spatial relations and disturbance of lateral cerebral dominance. I find it hard to believe that emotional factors can make a child left handed or cause him to be generally confused about spatial relations or otherwise interfere with the dominance of one cerebral hemisphere over the other.

The fourth and last argument I want to advance in favour of specific learning difficulty being responsible for most cases of under-achievement in intelligent children, concerns the results of remedial teaching. The main source of disagreement on this point is, of course, whether emotional factors are primarily the cause or the result of the difficulty in learning. I think it is of some significance in favour of the learning difficulty being the primary factor, to find, as I do, that the effects on the children's behaviour of good remedial teaching are in general superior to those of good psychotherapy. Psychotherapy can't be expected to be very effective, after all, if the cause of the disturbed behaviour is an untreated learning disability. Only 2 of the 20 boys in Margaret Rawson's language

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number of parents, and I would like to quote from a few of the replies, which were simply answering the question:- "Please comment on any change you have noticed in behaviour". The first is an eight-year-old boy who had special help from an Infant Mistress for the past eighteen months. His mother said, "You wouldn't believe the difference. He is a much more confident child who is enthusiastic about school now and very interested in his schoolwork. Finding that he can keep up with his classmates has made all the difference. He joins in all class activities now. He looks and is a much brighter, happier and more confident child than he was".

A ten year old boy whose behaviour in the playground, in the classroom and in the home had previously caused a good deal of disturbance. After twelve months' private remedial teaching his mother reports:- "Since his extra lessons, which necessitated my working full time, he has become a new boy, more obedient, participating more in family life".

A girl of fourteen who had become withdrawn and unhappy. She has had eighteen months of remedial teaching at the rate of half an hour per week: "There is a marked improvement in all ways. Social relationships show outstanding improvement".

A boy of sixteen from a Technical School. He was referred to me by a general practitioner after inadequate response to tranquillisers for his behavioural problem. He has had private remedial teaching for one hour weekly since October of last year (9 months): "The periods of aggression and frustration that occurred prior to the remedial lessons have now nearly vanished" says his mother.

These quotations of course don't mean much because I have selected them, but they do illustrate my own impressions that remedial teaching improves the behaviour of these frustrated children so much better than does psychotherapy directed at the family relationships.

Let me sum up the reasons I've given for believing that so many reading failures among intelligent children are due to the organic determinants of specific learning difficulty. They are:-

1. Twin studies, showing a strong genetic factor.
2. Frequent presence of minor brain damage, which of course can't be caused by the child's emotional state.
3. The very common presence of associated features, such as a high incidence of left handedness, for which emotional causes seem a very far-fetched explanation.
4. Remedial teaching is more effective than psychotherapy in modifying these children's disturbed behaviour.

Don't get me wrong. I don't mean to suggest that family and environment don't matter, but merely that more often than not, I consider familial and other environmental problems are secondary, or else are aggravating, rather than prime, causative factors.

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I would like to read you a few lines from an article by Kurlander and Colodny, two Californian psychiatrists. I think that they put the specific learning difficulty concept more clearly than I can, and they can speak with more authority. One is a Professor of Psychiatry

and Director of a Child Guidance Clinic, the other a Mental Hygiene Department psychiatrist working at the same Clinic. Both, incidentally, are qualified psycho-analysts, but they have changed their methods of treatment with increasing experience: "Those oriented to psychological thought have been taught a code of meaning and motive to apply, a bit uncritically, to certain kinds of behavior. For instance, hyperactivity means 'flight from relationships'; hypoactivity, 'withdrawal into fantasy'; destructiveness, 'hostility'; failure to read, 'block against learning'. But there are alternatives which to many of us sometimes appear more likely. Hyperactivity may simply express immaturity of the nervous system; hypoactivity may be a lack of motor and interpersonal skills; destructiveness may be a random combination of hyperactivity, poor motor skills and poor judgment. Failure to read is often either developmental delay or some degree of dyslexia". And a little later, "Our old technique focused on changing motives and assumed that if the heart were pure, the mind would know how to think...It is not his motives but his machinery which does not work. He needs less to be inspired than to be instructed".

I would like now to summarise the concept of specific learning difficulty as I've described it thus far. This concept places emphasis in the search for causation of under-achievement in intelligent children, on organic factors within the child rather than on emotional factors produced by his environment, and it particularly demands a study of those individual characteristics of the child which have relevance to his learning style and capacity. It recognises and develops the simple statement "children are different in the ways in which they learn", and it claims that the most important single part of the management of these children is skilled remedial teaching.

Now I would like to look at what are the characteristics of the child with a specific reading disability. Suppose you are a classroom teacher and have a child in your class who seems bright enough, but is not making reading progress. What observations will help you to decide whether this is because of a specific learning difficulty or because he really is just too frightened or worried to be able to learn, or perhaps because his home conditions put a premium on illiteracy?

Perhaps I should start a little further back and ask what is the meaning of the term specific learning difficulty or specific reading difficulty. When we say a child has a specific difficulty or specific disability, we simply mean that it is not a general one. He is not an under-achiever in all or most areas of learning, that is he is not mentally retarded. Such a child may, for instance, be a good listener, a good thinker and a good talker with an excellent vocabulary, yet be quite unable to recognise or remember a printed or written word as the symbol for a spoken word that he knows quite well. He may be unable to appreciate any difference between words like "who" and "how", just as you might claim that all Tibetans look the same.

That definition of specific learning difficulty already gives us two characteristics of these children - normal intelligence and a specific or localised problem. Thirdly, we could go through a list of the typical errors made by children who have a specific reading difficulty. Here it is important

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That definition of specific learning difficulty already gives us two characteristics of these children - normal intelligence and a specific or localised problem. Thirdly, we could go through a list of the typical errors made by children who have a specific reading difficulty. Here it is important to remember that the errors are unlikely to be confined to reading, if, as I am claiming, the unit defect is a neurological not an academic one. For instance, if you see such a child for the first time in a Secondary school, the most obvious departure from normal may well be either in spelling or in reading comprehension. On the other hand, in Grade I it is

quite likely that his writing or drawing will be the first thing to alert you to the fact that there is something wrong. The commoner defects in reading itself are made most obvious by asking the child to read aloud, though of course it is unnecessarily cruel to ask a dyslexic child to read aloud in public. To save time I won't describe those typical errors, but we'll have a quick look at a series of slides that illustrate the sort of errors with which I am sure you are all familiar. Just bear in mind that it is the frequency and persistence of these that distinguish the child with specific learning difficulty from the others. The first slide is from a Grade 2 child, showing some of the typical errors - mistaking one letter for another and so on. Next.

This is a boy in Grade 5 who couldn't read and those are his attempts to write from dictation. I think it's evident from what he has written that one of his problems was in auditory discrimination. You'll see the words "first strple" which is supposed to be "were startled". He has run them together. Typically, he starts off better than he finishes (like most children) but the point is that he was getting behind and in trying to hurry up made more mistakes. The next slide shows the first couple of lines not as dictated but as transcribed from the board. He managed to do two lines while the rest of the Grade did the whole passage, and he said that was all he could do in the time. Next slide.

This picture illustrates some of the difficulties about spatial relations and body image. These next three slides are all done by children about 11½ years old. The green one is done in textacolor - a difficult medium for detail. You can see from the position of the shoulders that this girl's concept of body image is a bit strange. The next one, by a boy, shows arms coming from the hips. The next was an attempt to copy a couple of diagrams. I did the ones on top, and this 11 year old child should have been able to do better than that if he had normal visual perception and visuo-motor co-ordination.

With reference to spatial relations and body image, I would like to illustrate here on the board another point about brain damage. This is a diagram of the human brain from the left side and the shaded area is the main area concerned with language, which is pretty well confined to the left half of the brain. Some people claim that it's those areas of brain with particular arterial supplies which are most subject to damage in a general state of oxygen deprivation, which is one of the common causes of minor brain damage at birth. The margin of such an area is shown roughly by where I've drawn those two parallel lines, which pass through this main area concerned with language function. The corresponding area on the right side of the brain, with a similar arterial supply, is concerned with the functions of spatial relationships and body image. So if it is true that the parts which have a less secure, an inferior, supply of blood, are particularly prone to damage by anoxia, then it is to be expected that such a cause of language disability will be associated with uncertainty about spatial relationships and so on.

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So we now have three things that would suggest that a child may have a specific reading disability.

1. Normal intelligence.
2. Irregular attainment.
3. Typical errors in reading, writing or spelling.

What else can we look for? I made some reference earlier to associated features. A dozen or more of these have been described and they are intensely interesting from the point of view of causation of specific learning difficulties. They have little to do, superficially, with reading - rather is it that poor reading and these associated features are the common results of the underlying neurological peculiarity.

Instead of giving a long list of these associated features I made a little investigation of my own for the purpose of this Seminar. I listed the last 100 children I have personally examined and regarded as having specific learning difficulties, and then determined the frequency of each of the major associated features as recorded in my notes. From these I have picked out those features which are most frequent and which can be observed by the ordinary teacher, rather than ones which need sophisticated psychological or medical tests.

The next slide shows the results of this investigation. Notice that 59 of these 100 children showed evidence of weak cerebral dominance, and there were 28 left-hand writers. You can observe this just by watching their confusion and uncertainty in deciding what hand to use for various activities. You can discuss with the parents such things as the hands they use for toothbrush and comb and hammer. Table-setting is often a very revealing thing to enquire about. These children have difficulty in identifying right from left. Ask them to do things like put the right hand on the left ear and they get very confused. Of course, with all these things, if you are not doing a precise psychological test, you have to have a pretty clear idea of the normal. You need to repeatedly get normal children to do the same thing to keep your standards satisfactory. A very simple test is the Schilder test. Ask the child to stand with his eyes closed and to stretch his hands straight out in front. Most people, when they do that, hold the hand that is dominant higher than the other. It is claimed that if the hand with which the child writes is either level with or lower than the other, then he has a disturbance of cerebral dominance.

Fifty one of the 100 children had speech difficulties, the main point there being late development of speech. The standard I used was to ask whether, before the second birthday, the child had been able to use at least two words together, meaningfully. Otherwise the usual disorder is a severe dyslalia - the mispronunciation of a lot of sounds.

Fifty had the hyperkinetic syndrome; you are all familiar enough with that combination of over-activity and impulsivity and distractability. These children just can't stay still. Anything they see or hear attracts their attention and they have to pay attention to it.

Forty five had motor inco-ordination. It's usually divided into gross and fine, of course; you can serve them running around, throwing and catching balls so on. A good test if you want to carry out a special one is to get them to walk along a straight line, making

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Forty five had motor inco-ordination. It's usually divided into gross and fine, of course; you can observe them running around, throwing and catching balls and so on. A good test if you want to carry out a special one is to get them to walk along a straight line, making heel touch toe with each step, and compare that with what the average child of the same age can do. They are inclined to overbalance. Fine motor co-ordination is demonstrated by things like doing up shoe laces or picking up small objects from the floor. A normal child of 7 can touch thumb to each finger twice in 5 seconds, and most of these

with poor fine motor co-ordination can't.

Forty three had problems of visual perception. I simply tested that by having them copy things like geometrical figures - circle, square, diamond, cube - again you must have your standards of normality clearly in mind. For visual memory I generally ask an older child to draw a plan of the room he sleeps in, and later I ask Mum to do the same. For a younger child you can draw some sort of geometric figure, get him to look at it for a while and a few seconds later ask him to reproduce it without being able to see it. A comparison between my figures and those of Spraings and Crowther shows mine to be smaller, no doubt because theirs was a much more careful investigation using standardised tests, and so they are able to say that some of the less obvious changes were in fact significant, whereas I would have to feel pretty sure that it was abnormal before I included it. Family history for instance, 35, whereas Spraings and Crowther found 58% with a family history of specific learning difficulty. The Scandinavians have produced much higher figures than that - Hansen 66% and Hallgren in Sweden, I think, 88%, and these were quite careful investigations into the reading disabilities of other members of the family. (Family here means simply brothers, sisters, mother and father). Of course a teacher would have to be pretty careful about inquiring into details of family history - parents are often very sensitive about their own disabilities. But at least you would quite often know about an older brother or sister, in the same school, who has also had such problems.

Our tenth slide illustrates differences between boys and girls.

#### ASSOCIATED FEATURES

Sex differences. n = 84 boys, 16 girls

Left Handedness

Boys 24%	
Girls 50%	Total 28% (27)

Possible Brain Damage

Boys 20%	
Girls 44%	Total 24% (31+)

Family History

Boys 37%	
Girls 25%	Total 35% (58)

None of these is statistically significant. According to my amateur arithmetic the odds are no more than about 18 to 1 that any of these is significant. But they are interesting and suggest that it might be worth investigating these with a larger series to establish whether or not they are significant. The sort of thing suggested by these figures is that perhaps in boys and girls there may be a difference in the type or in the causation of learning difficulties. For instance, boys might have more often the inherited problem, while girls might be more often due to brain damage and so on.

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Now to summarise the way in which children with learning difficulties can be diagnosed by anyone here today! Next slide. Bear in mind that a reading disability will not take long to affect a child's performance in other areas. But with that in mind, take any child who is intelligent enough to be achieving well in some areas, but is not doing so in

others. Note that he is making some typical errors.(Next slide). And then look for one or more of the 6 major associated characteristics I've mentioned.

1. Uncertain lateral dominance.
2. Late or abnormal speech.
3. Hyperkinetic syndrome.
4. Motor inco-ordination.
5. Abnormal perceptual-motor function.
6. Family history.

If we can identify one or two of these in such a child, the presumptive diagnosis of specific learning difficulty can be made with reasonable confidence.

But then we have a harder task. In speaking of diagnosis so far, I've referred merely to recognition of the existence of a specific learning difficulty. The other aspect of diagnosis is one for which it is customary to ask for the services of an educational psychologist with his battery of tests, aided ideally by representatives of other disciplines where necessary, such as speech therapy and medicine. That's what has been called the prescriptive diagnosis - a detailed diagnosis of strengths and weaknesses which provides a prescription for treatment, that is in this case for remedial teaching - a diagnosis that can tell a teacher where to start and which methods are most likely to be successful in the light of the functional characteristics of each child's individual central nervous system.

Now I am going to tell you a secret. Prescriptive diagnosis such as I have just described is the logical prerequisite to the best remedial teaching. Use it if you can get it. But some of you are already painfully aware of part of my secret, namely that diagnosis of this kind has a very limited availability. So what you should do is something that you can't usually do at present. For it to be possible we would need two or three times as many educational psychologists as we have. Moreover I think it would be very wrong to provide these and to make the prescriptive diagnoses without at the same time making provision for carrying out the prescriptions, that is providing ten times the present number of properly trained remedial teachers and providing in every school a properly equipped resource room or rooms in which they could work. An analogy in my own professional field would be to examine and prescribe for a sick child, to hand the prescription to the parents and to say, "That prescription will make your child well but there is nowhere where you can get it made up".

Knowing the lack of prescriptive diagnostic services, and realising that both ordinary and special teachers throughout the State are faced with the immediate necessity of trying to cope with the problems of the 10-15% of intelligent non-readers, the organisers of this symposium have tried to produce something which can be of practical help in the existing situation. Fortunately, coping in this way may not necessarily be a second-rate procedure. There is some experimental evidence to suggest that good results can be obtained without a preliminary prescriptive diagnosis. That's a rather unorthodox claim and no doubt further research is needed, but one such investigation was made by Barbara Bateman, who had a good deal to do with the early development of

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6. Family history.

If we can identify one or two of these in such a child, the presumptive diagnosis of specific learning difficulty can be made with reasonable confidence .

But then we have a harder task. In speaking of diagnosis so far, I've referred merely to recognition of the existence of a specific learning difficulty. The other aspect of diagnosis is one for which it is customary to ask for the services of an educational psychologist with his battery of tests, aided ideally by representatives of other disciplines where necessary, such as speech therapy and medicine. That's what has been called the prescriptive diagnosis - a detailed diagnosis of strengths and weaknesses which provides a prescription for treatment, that is in this case for remedial teaching - a diagnosis that can tell a teacher where to start and which methods are most likely to be successful in the light of the functional characteristics of each child's individual central nervous system.

Now I am going to tell you a secret. Prescriptive diagnosis such as I have just described is the logical prerequisite to the best remedial teaching. Use it if you can get it. But some of you are already painfully aware of part of my secret, namely that diagnosis of this kind has a very limited availability. So what you should do is something that you can't usually do at present. For it to be possible we would need two or three times as many educational psychologists as we have. Moreover I think it would be very wrong to provide these and to make the prescriptive diagnoses without at the same time making provision for carrying out the prescriptions, that is providing ten times the present number of properly trained remedial teachers and providing in every school a properly equipped resource room or rooms in which they could work. An analogy in my own professional field would be to examine and prescribe for a sick child, to hand the prescription to the parents and to say, "That prescription will make your child well but there is nowhere where you can get it made up".

Knowing the lack of prescriptive diagnostic services, and realising that both ordinary and special teachers throughout the State are faced with the immediate necessity of trying to cope with the problems of the 10-15% of intelligent non-readers, the organisers of this symposium have tried to produce something which can be of practical help in the existing situation. Fortunately, coping in this way may not necessarily be a second-rate procedure. There is some experimental evidence to suggest that good results can be obtained without a preliminary prescriptive diagnosis. That's a rather unorthodox claim and no doubt further research is needed, but one such investigation was made by Barbara Bateman, who had a good deal to do with the early development of I.T.P.A. The schools she investigated obtained better results by the initial routine use of intensive phonics, even with children whose discrimination of sounds was their main weakness. The same routine use of phonics combined with kinæsthetic procedures is the basis of Anna Gillingham's methods. And I recently saw a reference to a report from the

London Institute of Education - it had Downing's name associated with it - saying that the look-say method produced 12% poor readers, whereas starting with phonics produced only 7%. (This was in a large number of schools in London). So perhaps you should look again even at your routine methods. It's also true that a good teacher can, within some limits imposed by her training and experience, progressively arrive at her own diagnoses and prescriptions as she goes along. We are very fortunate in being able to listen to such an eminent psychologist and educationalist in this field as Professor Neale. I think she may be going to tell us something of tests which can be carried out by the ordinary teacher, rather than those which must be carried out (in this State) by a registered psychologist (thanks to the Scientologists). So although detailed psychological testing is absolutely essential for research purposes, and may well prove to be the best starting point for remedial teaching, it is by no means true that in its absence we need despair.

For the remaining few minutes I would like to comment on two or three implications of the concept of specific learning difficulties. If the emphasis in our diagnosis is to move away from interpersonal relationships towards a study of the characteristics of the child, there must be a corresponding shift in our approach to management. One implication in this will be a change in our attitude to the children. No longer will reports on learning difficulty children go home with comments like, "He could do well if only he would concentrate", or "Johnny could try harder". Instead it seems to me to become clearly the function of the school to discover why he doesn't concentrate, why he doesn't try harder. To send home a report like that - and they are very, very common, is merely saying in another way that the school has done its job, but the trouble is in the home. Well, at any rate that is the way that most parents will interpret it, and their reaction is likely to be either unwarranted pressure on the child, or else hostility toward the teacher. Neither of those will do anyone any good.

For the last 50 years, these intelligent under-achievers have been regarded as problems for the psychiatrist and the clinical psychologist, and the results have been dismal - 10% illiteracy, a proportion of delinquency, large numbers of dissatisfied and guilty-feeling parents, and so on. So the second implication of our fresh look at the problem is that the ball comes squarely back to the teacher. Can the teacher do any better than psychologists and psychiatrists? To my mind the answer to that question is the most exciting aspect of the whole matter. I believe the answer is an unqualified "Yes", provided we meet certain conditions. The first condition is that we look for these children early, and by early I mean in or before their first year at school. The second is that we make adequate provision for them in our educational structure - provision in such matters as teacher training, size of classes, suitable rooms, and above all, provision for the adequate training of adequate numbers of remedial teachers.

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Take first the condition that we make an early start. Doctors Ilg and Ames of the Gesell Institute at Yale have put the matter succinctly. "Third Grade is too late. By that time a child who is perceptually handicapped can be messed up good and plenty". Rather less academic language than we expect from that august centre, but the message is clear. Schiffman, in his report to the International Reading Association (next slide) emphasised the

importance not only of early diagnosis, but also of individualised remedial teaching outside the ordinary classroom. That slide shows the result of his investigation.

SCHIFFMAN : Percentages of dyslexia children reading at normal grade level at end of year

Grades	2	3	4	5	6	7	8	9
Receiving Remedial Teaching	82	46	42	18	8	10	11	6
Not receiving Remedial Teaching	18	6	6	3	1	.5	.25	.25

Note two things: the better results with remedial teaching (the upper line compared with the lower) and the better results when the problem is tackled early (the left hand side compared with the right).

Granted an early start, what sort of results can we get from remedial teaching? Margaret Rawson in her book "Adult Achievements of Dyslexic Boys" has shown that with early good remedial teaching, children with specific language disability do just as well in adult life as their matched non-dyslexic peers. Sam Clements, when he was here in March, told us that in Arkansas children with S.L.D's, on the average, were able after 12 months part-time remedial teaching, to return full-time to the ordinary classroom and to maintain their position thereafter. Such results may not be very common in Australia. Let's face it, we have very few highly trained remedial teachers, they often don't have the opportunity to see these children daily, nor to have them in their own schools. But I have seen results as good as those described from the U.S., coming from 3 or 4 teachers I know in Victoria and I'm sure there must be others.

Now what about the second condition? You will remember it concerned proper provision in such matters as special rooms in schools and adequate numbers of adequately trained remedial teachers. It's not really for me, of course, to say whether it is better to use remedial teachers in special rooms or more fully trained ordinary teachers with sufficient reduction in size of ordinary classes to permit individual help to those children who require it. But the remedial teacher does seem a more economic proposition.

It's not my place either to detail how a remedial teacher should be trained, but my idea of an adequately trained teacher of children with specific learning difficulty would be one trained to teach children with specific learning difficulties - not children with a wide variety of disabilities. I think teaching is at least as important as doctoring. We in the medical profession deal with children's bodies and emotions. You teachers deal with their minds and characters. I don't know which is really more important, but perhaps minds and characters are. I think teachers should be as highly trained as doctors. Now I wouldn't think much of a training for a medical

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particularly should be a specialty in itself - this, after all, is the biggest group of children needing Special Education.

Another condition was the provision of adequately trained remedial teachers in adequate numbers. This will, of course, cost money, but the cost is entirely within the reach of our affluent society once we convince that society, and it in turn convinces its politicians, that it wants to spend the necessary money. There is no doubt about our being able to afford it.

Suppose we in Victoria decided to get the problem of specific learning difficulty under control in the 1970's. I have based my calculations on the estimated minimum requirement of an additional 600 remedial teachers, 80 psychologists, a corresponding increase in training facilities, and a thousand properly equipped resource rooms in which these people could work. (I don't think children should be removed from their home schools for this purpose, so we would need more rooms than teachers so as to provide for schools not big enough to use a remedial teacher full-time). After due allowance for rising costs and salaries and for wastage of trained personnel, the total cost spread over the decade would be no more than \$60 million (\$6 million per annum). In that same decade, Victoria is expected to spend \$400 million on colour television - over 6 times as much. We can probably have both if we want, but if there has to be a choice, is there any doubt which to choose? And, of course, it won't really cost us anything in the long run. We would more than save the \$6 million annually in reduced cost of coping with mental illness and delinquency, and in increased productivity.

There is one catch to such a ten-year plan - the staff to train the remedial teachers. I am not implying criticism of the people conducting the two courses now available in Melbourne, but we are all only too familiar with the problems of staffing expanding Universities and Secondary schools. With the tremendous expansion in both numbers and curriculum that the specific learning difficulty concept implies, staff for courses in remedial teaching will impose a crucial bottle-neck. I think that is a job on which Universities and Teachers' Colleges should get together, and the time for them to start is right now.

In conclusion: all things considered, it would seem to me that there are three methods by which we can deal with our intelligent under-achievers: put them at the back of the room and forget them (this has been the commonest when they didn't make a nuisance of themselves); psychotherapy in its various forms (the one usually adopted when they did); or thirdly, adequate, early, well-directed remedial teaching. Of the three, remedial teaching is in the long run less expensive and more effective, though at this moment in history, it is also less available. For the sake of our intelligent under-achieving children, let us make some new history.

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. . . . .

Question: Could you please explain the improvements that tranquillisers prescribed for problem children could make on their behaviour? (attitude?)

Answer: I suppose the area in which tranquillisers are most likely to help is that of distractability and short attention span. A child who is hyperactive, who is unable to attend for long enough to learn, will have his learning

ability improved if some drug, not necessarily a tranquilliser, can enable him to pay attention for a longer period of time. That is the area in which medicinal treatment is of greatest help to children with learning disabilities. I think the best way to deal with this long question is to take just a few words at a time.

Q. If tranquillising treatment (presumably tablets) is required during the day at school, is the classroom teacher legally and legitimately in a position to administer this form of treatment?

A. I think we might put this the other way round. A classroom teacher is legally entitled to refuse to administer such treatment, but in my experience very few teachers do. That is, when a parent makes a request that a teacher sees that a child takes a tablet at a certain time, the teacher almost invariably agrees to do so. Somebody who saw this over my shoulder a few minutes ago said that the teacher does not have to administer it. All he need do is to say, "Jimmy, it's time to take your tablet and here it is". The child administers it to himself. I hope that teachers continue to co-operate in this way because for children with epilepsy, for example, it is highly important that treatment should be given at the right time.

Q. There has been much comment regarding the result of organic deficiency, genetic influences etc., giving rise to specific learning difficulties. Accepting that at present the extent of professional training given to teachers is limited, and that this situation may remain for some considerable time, apart from the recognition of the learning difficulties which appear in the classroom, in what way does the practising classroom teacher become aware of those areas which could be directly in the province of medicine?

A. I don't quite know how the classroom teacher becomes aware of the areas which could be directly in the province of medicine, except in the sort of way I was trying to explain this morning. There are many areas which are partly medical, partly educational, and it behoves those in each profession to become familiar with the overlapping portions of such problems. You could say that determining a child's laterality, cerebral dominance, is a medical question. But it is also an educational one. It has considerable relevance to learning to read and write. I don't see why a classroom teacher should not be able to become familiar with this sort of thing.

Q. What is the legitimate procedure for calls to be made on the School Medical Services and how speedily can this be provided?

A. The legitimate procedure for a call to be made on the School Medical Services apart from the routine visits which the Service itself arranges is simply for a Head Master to ring the Headquarters of the School Medical Service. We will endeavour to provide what help we can. But like remedial teachers and educational psychologists, school medical staff is extremely limited in numbers, and though there are large numbers of problems with which we would like to help, we cannot because there are not enough of us.

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with a rash and the parents refuse to take the child to a doctor - you can ask for a school sister to go out and do something about the problem if you think it's an infectious disease, and usually the response is immediate, but we can't guarantee it because there may literally be nobody available.

Q. Does the School Medical Service recognise the function of a classroom teacher at this point, and what is asked of her or him?

A. I don't think I really know what that means; will the questioner enlarge?....(Questioner inaudible)..... whenever a child is referred by a classroom teacher we ask that the teacher should write notes on the problem as it appears to him. Little slips are given to the Principal at the school for this purpose and should be handed to those teachers who refer children.

Q. What return contact is made from the School Medical Service to a classroom teacher?

A. When a school medical officer leaves the school he leaves with the Principal a written report on each child referred and on each child in whom a defect was found, if it has some significance to the management of the child at school. I trust it is always available to the classroom teacher. At some schools there's a little staff conference at the end of the visit when children are discussed. I suppose that is unusual, but it is certainly very profitable.

Q. In view of the highly specialised nature of the possible approach in treatment, and a child's reaction which may vary from day to day, apart from some form of isolated placement, what feasible recommendations is the School Medical Service able to make to assist the class teacher to cope with such a case in the existing classroom structure?

A. As I said this morning, many of the problems we have been talking about today have some medical relevance. This problem is primarily an educational one. Usually, the only and best recommendation that a School Medical Staff person is able to make is to ask the Principal to refer the case to the Psychology and Guidance Branch for further guidance. It does occasionally happen that we can give some relevant help, particularly as to general management of a child - how he should be handled and how he should be managed in general rather than academic situations. But generally speaking it is an educational problem.

SEMINAR FOR TEACHERS CONVENED BY SPELD (VIC.)  
AND THE INTERNATIONAL READING ASSOCIATION.

Saturday, November 14, 1970.

READING DIFFICULTY AND THE INTELLIGENT UNDER-ACHIEVER

Psychological Assessment for Remedial Teaching

(Professor F.N. Cox)

I want to counterpoint what Dr. Hagger has been saying in terms of general research and to go over some points as a psychologist, as distinct from a teacher or medical practitioner.

One is often asked what is meant by psychological assessment. What one answers to, say, medical students, differs from what one would explain to a law group. Yet some things are common to all sorts of situations.

If you judge by watching television or reading magazines, you would get the idea that psychological assessment is something conducted in a soundproof room with an elaborate series of flashing lights and electronic apparatus. Another conception is that it is some kind of tea-cup reading, showing people ink blots, or antiquated drawings.

The definition of psychological assessment that I would like to put before you is the careful observation by a psychologist of an individual in a variety of specially constructed situations.

The observations are of two kinds: there is the observation that we all have at our disposal, of simply watching and listening and deriving inferences from our observations. Controlled observation is not very different, except that we present the individual with certain pre-determined tasks and therefore can compare him with other individuals. It sounds easy enough, but the first problem is that no two children behave in exactly the same way, they don't behave consistently themselves, and they don't behave in exactly the same way as any one else. Nor, if we are looking at them from the diagnostic point of view, do they ever suffer exactly the same complaint, which means that the psychologist, as an observer, can never repeat his observations precisely. Consequently, if he is not going to get lost in the woods, which is not uncommon, he has to inure himself one way or another, to the various complexities and variabilities that children, parents, and all of us, exhibit.

The psychologist, particularly in the field of specific learning disabilities, has to try to discover some order in a field that is essentially untidy and quite complex. To do this he has to be careful and to pay a lot of attention to detail.

At the first meeting with a child, the psychologist, if he is doing his job properly, will spend quite a long period of time, preferably on more than one occasion, observing the child, talking to him, asking fixed questions, at the same time being able to improvise his questions to fit the situation. At the same time he has to make, as best he can, notes to guide him in his assessment.

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Psychological tests - or assessment procedure is a phrase I prefer - are to assist the psychologist in making his observations. The most useful ones are fairly standardized interviews which afford an opportunity to study the patient's responses to many different questions in a wide variety of situations.

The other aspect of psychological assessment I wish to mention is that the psychologist, no matter what specific disability he might be investigating, must concern himself with all aspects of the child's behaviour. Failure to do this means that he has certain pre-conceptions which would restrict and limit the information he is seeking. If for

instance one is asked to see a child whose school performance has been uneven, systematically uneven in the sense that his reading is extremely weak and his spelling distinctly poor, one should look at this child from a number of points of view. The psychologist has to make some estimate of the child's overall intelligence, and some estimate of his particular abilities. Whether he wants to or not, he is going to notice the child's motivations, his intent to perform; and he is going to be aware of the fluctuating emotions of the patient. He is certainly going to obtain some information about the family situation, even while he is predominantly concerned in such a case with the child's educational attainments or lack of attainment.

All of which means that psychological assessment does take time.

Another point I wish to make is that the value of the psychological assessment is directly related to the training and experience, and in a real sense, the personality of the individual making the assessment. It is important that you have some knowledge of the psychologist. This comes from reading his reports, and also from discussing the apparent value of the reports with your colleagues.

Three aspects of today's subject, "Psychological Assessment for Remedial Teaching" - should be noted: firstly, the nature and extent of the learning disability; secondly, the probable causation of the disability; and thirdly, the likely responsiveness of the child to remedial help or remedial teaching. And I must stress that my focus here is on individual children. I am not reporting the results of surveys.

To assess the learning disability, the psychologist should first have or make some formal or informal assessment of the educational attainment of the child. There are certain standardised tests to assess the reading age of the patient, his spelling level, or his mathematical proficiency. (Most of the tests available in Victoria were devised many years ago and are remarkably out of date. New tests are being devised but in general the psychologist is extremely dependent on the teacher's observations and the teacher's marks; particularly valuable are the teacher's informal, informed comments.)

If a child is greeted, when he first visits a psychologist, with a series of tests designed to assess how well he can spell and how much he knows about mathematics, or how well he can read, this can have an unfortunate effect on the rest of the assessment: he is obviously being 'confronted' with the areas of knowledge where his skill is not very good, in which he has experienced a great deal of frustration and resentment.

It is obviously unintelligent to begin by attacking him at his weakest point; obviously it is better to have collected this information before hand from the teaching source. The teacher has had a great deal of time to observe the child, and her information will be far richer than the performance a child can give on any standardised test.

Assuming that the investigator has advance information about the nature of the disability, his job is then to look at the psychological processes involved. Firstly, is sensory information being received adequately? Before any psychological assessment can be made there must be independent evidence that the child is getting the information in through his senses, that his hearing or vision are sound.

The second stage involves the psychologist more deeply. He has to find out whether the information received is being adequately co-ordinated and integrated by the child. To assess these particular processes is the

to or not, he is going to notice the child's motivations, his intent to perform; and he is going to be aware of the fluctuating emotions of the patient. He is certainly going to obtain some information about the family situation, even while he is predominantly concerned in such a case with the child's educational attainments or lack of attainment.

All of which means that psychological assessment does take time.

Another point I wish to make is that the value of the psychological assessment is directly related to the training and experience, and in a real sense, the personality of the individual making the assessment. It is important that you have some knowledge of the psychologist. This comes from reading his reports, and also from discussing the apparent value of the reports with your colleagues.

Three aspects of today's subject, "Psychological Assessment for Remedial Teaching" - should be noted: firstly, the nature and extent of the learning disability; secondly, the probable causation of the disability; and thirdly, the likely responsiveness of the child to remedial help or remedial teaching. And I must stress that my focus here is on individual children. I am not reporting the results of surveys.

To assess the learning disability, the psychologist should first have or make some formal or informal assessment of the educational attainment of the child. There are certain standardised tests to assess the reading age of the patient, his spelling level, or his mathematical proficiency. (Most of the tests available in Victoria were devised many years ago and are remarkably out of date. New tests are being devised but in general the psychologist is extremely dependent on the teacher's observations and the teacher's marks; particularly valuable are the teacher's informal, informed comments.)

If a child is greeted, when he first visits a psychologist, with a series of tests designed to assess how well he can spell and how much he knows about mathematics, or how well he can read, this can have an unfortunate effect on the rest of the assessment: he is obviously being 'confronted' with the areas of knowledge where his skill is not very good, in which he has experienced a great deal of frustration and resentment.

It is obviously unintelligent to begin by attacking him at his weakest point; obviously it is better to have collected this information before hand from the teaching source. The teacher has had a great deal of time to observe the child, and her information will be far richer than the performance a child can give on any standardised test.

Assuming that the investigator has advance information about the nature of the disability, his job is then to look at the psychological processes involved. Firstly, is sensory information being received adequately? Before any psychological assessment can be made there must be independent evidence that the child is getting the information in through his senses, that his hearing or vision are sound.

The second stage involves the psychologist more deeply. He has to find out whether the information received is being adequately co-ordinated and integrated by the child. To assess these particular processes is the proper role of psychology.

The third stage - very important in spelling and writing - is the area we call the response output of the child. Information received through the senses has to be integrated in some fashion or another in the brain and then translated into action: he has to read, or to write, or something. If there is dysfunctioning in this area the psychologist can be useful in assessing it.

Let us look in a little detail at the way information is integrated, co-ordinated and interpreted by a child, as it is in this area that specialised psychological tests can be of use.

A child who is integrating information, co-ordinating it, and combining it effectively, shows a number of characteristics.

A well-functioning child of the chronological age of between 6 and 8 will be able to perceive a number of similarities and differences. We are able to show that he can do this by asking very simple questions and getting him to do simple things. For example we could ask him the similarity between wood and coal. You could also ask what are the similarities and what are the differences between a ship and a motor car. The child compares and discriminates between two words that act as symbols for particular objects. "Yes, they are both different," "One is bigger than the other" would be not unreasonable answers for that age level. Asked about similarity, a child may say, "Oh, they can both be white". Another child may say "Many ships are made of steel" or "made of metal, and so, too, are cars."

You will see, then, that such a child of 6 or 8 is capable of a certain degree of abstraction.

Also one needs to look at the child's perception of similarities and differences without words, or with the role of words down-played as far as possible. This is where such tests as the Bender-Gestalt help, where the child can be presented with a simple pattern, a simple geometric pattern, and asked to copy it. Some children can become nervous of course and perform badly and then, 15 minutes later, will copy these patterns much better. Psychological assessment does need repeated observations, either in the one session or in different sessions. One must take time to give the child maximum opportunity to function as well as he can.

The normally functioning child from 7 to 8 will copy quite difficult geometrical patterns. At nine, he will be able to copy virtually any geometrical pattern, as well as - and often better than - adults.

The next stage in the assessment of these capacities to integrate and combine, is to see whether the child is able to notice differences and similarities in patterns. Can he perceive quite subtle differences? Can he perceive rather obscured similarities? The normal child of 7 to 9 years will be able to do these tasks rather easily. A child with a specific learning disability will exhibit dysfunction in these three areas, certainly in two out of three. As stated before, firstly in the case of words, the perception, the ability to state similarities and differences, will be found to be impaired. In the absence of adequate psychological procedures in this State, this is one type of assessment that can be made informally. Just notice, casually, without trying to give psychological tests, the ability and the disability of the child with respect to perception of simple similarities and simple differences. Pairs of words, and pairs of objects can readily be employed to get evidence of disability in the 8 to 8-year-old range.

Again, to test visual ability and disability, there exist many books of 'patterns' of the 'dot' variety. If you stop the child after he has completed about a third of the pattern and ask him to guess the name of the object, you will find this a useful means of detecting difficulties in perception.

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The third area to assess is the quality of the response output. The execution of motor movements, both of the gross kind which Dr. Hagger mentioned and the much more specific or fine kind involved in moving fingers and moving joints can be assessed quite simply by direct observation.

Certainly when there is evidence of relatively poor fine muscular control and relatively poor co-ordination, then the likelihood that the child has a specific learning disability is markedly increased - particularly, of course, if you have direct evidence of poor learning occurring in the classroom.

In making observations of this kind, whether formally in a psychological assessment situation or informally in school, there are two base lines to be aware of:

(1) One is comparing the child with one's accumulated memories of all other children of the same age. You need to break that down and compare boys with boys and girls with girls, as in nearly all areas of development up to 8 or 9 years of age, the girl is going to exceed the boy.

(2) More important is the second base line: one is comparing the child with himself. This means that if you get the child at the beginning of the year and then watch him going through until the end of second term, you may notice his inability to learn in one, two or maybe three areas. You have also got observations of his strengths in other areas, and you have the chance to see if there is any change in his competence in reading or spelling over that period. In formal psychological assessment it is considered very useful to see the child on one occasion and then on another one. Apart from physical afflictions like colds and viruses, children do fluctuate remarkably from day to day, and we do need to observe them on several occasions to prevent ourselves jumping to hasty conclusions.

When the psychologist has had the chance to observe the child, to ask him questions, to get him to do things in controlled situations, and also in quite uncontrolled ones, he should be able to pin-point the main areas of difficulty. I am thinking here in terms of the psychological processes involved in the activity rather than anything else. He should be able to say, "These are the processes that are not functioning. This child is not able to perceive similarities, not able to abstract beyond a certain level." The next stage is to suggest to the remedial teacher particular procedures that may strengthen the child in his weak areas. If, for example, the child cannot cope well with similarities and differences between words, we should start him at the very simplest level: one can take objects from the teacher's desk or handbag - from anywhere - show them to the child, let him examine them and then enumerate the differences. This is a slow training: you show the child very systematically and slowly that this is larger than that, this is longer than that, this is a different colour from that, and so on.

Training in differences nearly always should precede training in similarities, because differences are easier to recognise. The child will experience a little success - and these children do not experience a great deal of success, as we all know. Training in similarities must start with concrete objects, start at a very simple level and gradually be built upwards.

### The causation of learning disabilities

The psychological assessment should comment on the causation of the disabilities found since it has bearing on the kind of programme to be recommended and also on its duration.

One can distinguish three kinds of causation in learning disabilities, the first two being far more common than the third. The first one is where the child has a primary disturbance in reading, that is, an inborn disturbance in reading skill, where conclusive evidence of brain damage is not available.

We assume here, as Dr. Hagger mentioned, that there is a basic neurological impairment, because the child functions in a way to indicate neurological impairment; that is, he functions like other children with known neurological impairment.

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The second group: those who have a primary reading retardation with quite explicit and quite marked brain damage. Maybe from severe injury at birth, maybe from subsequent illness or injury.

The third group, by far the least common, is the so-called secondary retardation, where the causation (in the absence of other evidence) appears

to be emotional. These are the ones that Dr. Hagger mentioned that got so much attention 15 or 20 years ago, where tortuous attempts were made to explain the reading retardation in terms of the child's assumed unconscious identification with the mother and non-measurable variables of this kind. One does find in practice that there is a small group whose reading or spelling disabilities are related to emotional factors.

But this third group is relatively uncommon.

Causation of reading or spelling disabilities is predominantly biological.

However, with children who have learning disabilities there are nearly always secondary emotional consequences - often caused by striving, pushing parents who place a great deal of importance on education - frequently as a means to some kind of occupational end. Children suffering parental pressures as well as a learning disability exhibit feelings of inferiority, frustration and hostility, and tend to give up in the face of difficulty. If one tries and tries hard, and finds that one's hardest efforts fail to produce success, it becomes very easy just to give up!

A psychological assessment should try to spell out some of these emotional factors, to help those involved in educating the disabled child. Confronting questions should be: Does this child tend to give up easily in the face of difficulty? Does he tend to become very depressed, moody, irritable, or is he casual and disinterested (which is an easy way also of dealing with feelings of frustration)?

I have mentioned these notions of causation because they do have pretty direct effects on the overall treatment programme for the child. In the case of the most common group (primary retardation with neurological impairment but where the assessment of the neurological impairment is often difficult) remedial teaching is indicated. The chance of getting the child up to a normal reading age within the space of a year is quite good, if the child is 6 or 7 years of age. If he is 7 or 8, usually, I think, the treatment programme will take longer. If he is 9, it may take 2 or 3 years for him to catch up, and in about one-third of cases you may not get him there at all. If the child is older than 9, the chances of proper development of reading skills is poor.

The intelligence level of the child concerned is of course a factor in improving disabilities. To progress, the intelligence level needs to be 'average' -- or, ideally, better. The motivation of the child in school -- the child's desire and intent to learn -- is also of great significance.

Again, if the remedial teacher is not only competent but also warm and responsive, and anticipates the secondary emotional difficulties so that they do not inhibit the learning process, the prognosis must improve. It has to be remembered that most of these children have received remarkably little in the way of positive reinforcement in learning.

In general, if the child is aged under 9, and, given good ability and positive motivation, plus an effective remedial teacher, the chances of improvement are remarkably good.

With the second group, where there is a primary reading disability with demonstrable brain damage, the prognosis is obviously poorer, depending on the assessment by the neurologist of the extent of the brain damage and the areas affected. Nevertheless the other factors I have mentioned till are important in assessing his likely responsiveness - the degree of intelligence, the motivation of the child and the skill and sympathy of

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The small group of children whose reading disabilities flow from emotional causes are found to respond very quickly to treatment. They learn to read remarkably quickly, provided the emotional difficulties are treated successfully with medication or with some type of therapeutic intervention.

The main conclusion I would make is that some kind of psychological assessment of these difficulties is very desirable. It enables us to look first at the nature of the learning disability, second, whether the difficulty is one of perceiving differences, perceiving similarities, or both: whether they involve visual patterns, or words, or both. Assessment of this kind can itself have quite good effects - the child realises his difficulties are at last being recognised.

The second conclusion is that the remedial teacher needs a comprehensible, as well as a comprehensive, report from the psychologist for her to act upon.

And a final point: where a child has had remedial help, it is useful to have him re-assessed after a period. This provides information that can be very useful to the psychologist and very heartening and helpful to the parent, the child and the remedial teacher.

## THE CONSEQUENCES OF INITIAL FAILURE IN LEARNING TO READ.

Hugh Esson.

I want to approach this afternoon's topic in what may seem to be a roundabout way. I want to address myself to the question, "What is it that we have to try to remedy?" I want to describe to you some features of adult illiterates because this is a group which I know well. But I think that many of the things I say will apply to other groups too. Perhaps I could explain very briefly how I became interested in working with adult illiterates.

While working as a clinical psychologist, I was impressed by the fact that something like two thirds of children presenting with emotional problems also had educational problems. Out of my ordinary work, there developed the idea that remedial work and psycho-therapy were not very far separated. Quite often the treatment of choice was to deal with the educational problem. Progress educationally was often associated with progress in other areas of behaviour. I then became concerned (about twenty years ago) about the school leaver; about the problem of some of my retarded readers who were leaving school semi-literate, with a long record of failure, and apparently without anybody who cared very much about it. It also seemed to me to present an opportunity for doing something a little beyond my ordinary everyday work. It was possible perhaps to run a remedial group at night for such people: most of them were male, and the problem of transport was not a serious one. This was how it started. The other thing which interested me about this group was the thought that if one took the older backward reader, one might see the problems "writ large". One might get greater understanding of some of the factors involved in reading failure, just of course as psychiatry and psycho-analysis have taught us a great deal about normal development from their careful study of abnormal development. So I continued with a group of adult illiterates at the clinic for a number of years, and I took that group with me to the university and still continue with them.

What I wish to examine now is the question, "What is the adult illiterate like?" Usually the ones I see are late teens or early twenties, occasionally a little older. What's he like when you see him at your first contact? You notice first of all that he has had difficulty in finding his way. He's more likely to be too early than he is to be late. His manner is diffident. He is unused to situations in which he consults or is examined. From the first moment one sees him, poor social confidence and low self esteem are evident. His speech is likely to be soft, perhaps even slovenly. One can understand what he says quite well but his vowel sounds are neutral rather than pure; his consonants are not very sharply produced; he speaks in short rather than long sentences, or more likely in loosely connected phrases. His vocabulary is limited; he's learned the current stereotypes of popular language: rather than "Yes", he says "No worries". He is, if you like, speaking like the uneducated working man, and yet one

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A study of his school history reveals regular attendance, and that he left school at school-leaving age. His memory of his early attempts to read is quite blurred.

However, one finds on questioning that at school there slowly emerged until it became quite clear and definite, the fact that he couldn't read. Quite often this was associated with failure in all school subjects, but nearly as often his performance in arithmetic was average and perhaps sometimes good. Along the way in Primary School, quite typically, one teacher, never more than one, had made an effort to help him with his reading, but that effort was not successful. The message he finally got, loud and clear, was that his reading disability was something within him: he was mentally dull, ineducable. A few teachers were punitive and rejecting, while others adopted a laissez-faire attitude. One of my lads spent his school career in the back row, drawing. He is a man of well above average intelligence. Another became the unpaid school gardener. It's interesting that the stereotype of reading failure being equated with mental retardation still persists. I'm going back now not many years, but just a few weeks to a child I saw recently, where the teacher interviewed the mother and gave very careful advice by saying, "Your child cannot learn to read. He is mentally retarded". This child was testing at about average in intelligence.

The family history of the backward readers I see is of course tremendously varied; however, whether the family is described as "stable" or "unstable", the response of parents and siblings to reading failure shows a degree of consistency. Parents are concerned, and literate siblings are puzzled. I think that this is most important, and I'll just say a very brief word now on the reaction of parents to reading failure. Parents are not disinterested; they are in fact very anxious. Because of their anxiety, they may do many things which make the child's emotional problem more difficult. You will often find that he is compared with his brighter literate siblings, and that family attitudes can develop that make the family situation very difficult for the child. Feelings of failure and rejection in the family are added to the feelings of failure and rejection which have been felt in school. What is the reading performance of these lads like at this age? Once again there is a lot of variation. Some will be virtually illiterate - this is fairly rare, but you do find it; there'll be others whose reading on standard tests may be as high as early Grade Two, perhaps even early Grade Three. However, what will apply, whatever the particular level, is the fact that for all of them, reading is associated with a very high output of energy and is most exhausting. At the end of a reading test, the person who's been tested is flushed and emotionally drained. If one asks them to write, one sees the same sort of thing - the tremendous amount of energy required to do something which so many people have learned to do with a minimum of effort.

What is their cognitive performance like? More often than not, one finds on verbal tests that they are testing below average, usually not so far below average as to make one feel they could not learn to read, but sufficiently below to represent something of a problem. On performance tests, on more practical sorts of intelligence tests, it's rare in my experience for them to test very much below average. What is the personality picture like? What

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in some people to what perhaps would be better called a repressiveness; a tendency to force experience out; not to know; not to feel; what I often call the "encapsulated" person. This is very typically the sort of picture - that they are functioning below their potential in every sort of area. They get by but only by restricting their total experience of life.

Now may I come back to my first question - "What have we got to remedy?" Of course my list will not pretend to be complete. One thing that comes to mind is the whole area of oral English - the discrepancy between what we say and the things books say. With the sort of group I know, this is a very wide discrepancy, and a lot has to be done in the development of oral English. There has been a lot written in terms of the development of reading comprehension, whereas what we are talking about is, of course, language comprehension and language enrichment. Quite often there is a confusion here. And very often there is a big area in which they need to explore their language and to gain confidence in talking about things.

The second area is their poor verbal ability and with it a very poor level of general knowledge. Because of their illiteracy they have picked up very little general knowledge. They are very restricted in the ways they can use words and explore ideas. A tremendous lot has to be done here.

Thirdly I want to mention specific help with reading, and all that I shall say here is that this specific help with reading has to be the kind which builds confidence through the experience of success and through a growing confidence in their ability to solve reading problems for themselves. They need to see themselves becoming more independent in their approach to reading.

Finally there is the large area of help with social and emotional problems. I could give you a recent example of this. One of the lads in my group, aged 18 and totally illiterate, was very keen to obtain a driving licence. All the members of the group got to work, and over a period of some weeks he became one of Melbourne's experts on his road law, and we all had a sense of triumph when he got his driving licence. You might say, "What has this to do with reading?" It seems to me to have a great deal to do with reading, and that the sort of things I am talking about do apply even earlier. The experience of one's worth as a person is a fundamental psychological need and a human right.

A teacher in England made a comment to me about remedial groups which applies very much to all the things I've been talking about. It's a very simple statement - one which I wish I had made. He simply said, "You have to care and you have to communicate to them that you care". This caring needs to go on and on like a river.

Q. How would you comment on the amount of success you have received in teaching older illiterates over the age of 18? What reading age would the average person in

Now may I come back to my first question - "What have we got to remedy?" Of course my list will not pretend to be complete. One thing that comes to mind is the whole area of oral English - the discrepancy between what we say and the things books say. With the sort of group I know, this is a very wide discrepancy, and a lot has to be done in the development of oral English. There has been a lot written in terms of the development of reading comprehension, whereas what we are talking about is, of course, language comprehension and language enrichment. Quite often there is a confusion here. And very often there is a big area in which they need to explore their language and to gain confidence in talking about things.

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Q. How would you comment on the amount of success you have received in teaching older illiterates over the age of 18? What reading age would the average person in your group attain after two years? Have any of your remedial reading students been capable of going on to tertiary studies?

A. There are a number of points of interest here on which I will comment quite briefly. I have a problem in

my group, which is rare with remedial teachers. There comes a time when their job is finished. The child leaves school or is transferred back to normal classes. There has been reading progress made of a certain kind. This is definable, and there is a sort of end to it. There is no end point with mine. I don't know where to stop. I'm not sure that there is any point where one can stop. Let me tell you the sort of thing that usually happens. It's not a matter of very great difficulty to improve reading skills. They come along and are reading at, say, Grade One level, and one has them reading at Grade Three level. Something has been done which has contributed a little, but they still have a reading problem. Perhaps if you battled on a bit harder, you might have them reading at a Grade Four level. This still represents a reading problem. It still represents with most of the group I see a sort of end point also, I think. Now there are several things involved in this. The first is that your school leaver is no longer in a literate environment. If he's at school, he is hearing lots of words and doing many things that are involved in learning. When he works in a rowdy factory where the lunch time conversation involves a fairly restricted range of vocabulary and of topics; where his home environment consists at the highest level of the TV set, there is not the sort of reinforcement which applies to the child who has developed adequate reading skills by Grade Three and who has read enormously, whether he knows it or not, in the intervening years. The ones I see have read very little and can never, in the time available to them, hope to get that degree of practice or of fluency that would make reading something easy for them. So there is always a degree of effort involved. Functionally, we can say yes, they have improved.

When we talk of tertiary education, I don't think it so happens in this group that we've had very many who, given the best of early opportunities, might have gone that far, but they've gone some distance. We can claim many successful trade courses, though some are admittedly largely practical: welding, spray-painting, sewing-machine mechanics, painting and decorating, motor mechanics, electrical trades. This is a group of qualifications which lads in my group have managed to achieve. Sometimes, while their literacy has been fairly faulty, they've had to take tape recorders to Tech. School. Sometimes they are given an oral, because of their difficulty in answering a theory paper. So we can say that one does get improvement of a kind which means that if it is necessary for them to read, they probably can. I very much doubt whether I've ever reached the point, except perhaps with one or two, where they have reached a level of fluency where they can read for pleasure. This is a very real problem. It is interesting that although our studies of the effects of remedial reading are not very many and perhaps inconclusive, the work of Dr. Lovell at Leeds would suggest that if remedial education is commenced above the age of nine, irrespective of intelligence, performance will never be above about a B level. This brings us back to the need for early recognition of reading difficulties and for skilled intervention. Where are we to get these people whom the teachers can consult? We've got to get them, we need a large number of them, and we need highly trained people. I would like to flood our Infant Schools with them, and then my group eventually might be able