

# Reducing classroom failure by improving the quality of instruction

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‘By analysing your teaching and your students’ learning you will be able to see just how the things that you do and the decisions that you make, influence the learning of students in your classes. This reflection will help you to become a more effective teacher, whatever teaching strategies you decide to use’ (Killen: 1996, v).

In this address I want to explore with you some of the reasons why students experience learning failure in school. I will then examine some of the possible ways in which we, as teachers, can work to reduce the likelihood of learning failure. As part of this presentation I will share with you my belief that many of the learning problems in our classrooms are due to the inappropriate use of student-centred learning approaches in situations where teacher-directed methods are clearly more effective. I refer particularly to the early learning of basic academic skills such as reading, writing, spelling and elementary mathematics.

## **Why do some students experience difficulties in learning?**

Let us consider first the reasons teachers most commonly give to account for students’ failure to learn. This information comes from a study that I carried out with over three hundred junior primary, primary and secondary school teachers in South Australia (Westwood: 1995). The teachers were asked to list all the factors they believe caused learning problems in their classrooms. Table 1 presents a summary of their responses, grouped into eight categories.

**TABLE 1: Teachers’ perceptions of the causes of learning failure**

<b>Causes within the student:</b>	<b>62%</b>
e.g. below average intelligence, sensory impairment, attention deficits, hyperactivity, short-term memory problems, poor language skills, low level of motivation, behaviour problems, laziness, etc	
<b>Causes within student’s family background or culture</b>	<b>14%</b>
e.g. lack of support, low expectations, poor management, poverty, absence of role models, language other than English, etc	

<b>Causes within the curriculum</b>	<b>8%</b>
e.g. work too complex for student's cognitive level, too much material to cover, content not relevant to student's needs or interests, resources too dependent upon reading ability, etc	
<b>Causes within the school or classroom environment</b>	<b>6%</b>
e.g. large classes, noise levels, lack of resources, seating arrangements, etc	
<b>Causes within the student-teacher relationship</b>	<b>4%</b>
eg. unsympathetic teacher, clash of personalities, etc	
<b>Causes within the peer group</b>	<b>3%</b>
e.g. pressure to misbehave, the 'norm' to underachieve, bullying, reluctance to ask for help, etc	
<b>Causes within the teaching approach</b>	<b>2%</b>
e.g. method relying too much on student's ability to learn independently, relying too much on intrinsic motivation, insufficient time given to practice and application, too little teacher direction, etc	
<b>Other causes</b>	<b>1%</b>

When I first analysed this information I was quite shocked to discover that 76% of the reasons teachers give for students' learning failure are located within the learner, or within the learner's home background and culture. While these factors obviously do impact upon a student's ability to learn in school, they are all factors over which teachers have minimum control. The factors over which they have most control are those related to teaching method, curriculum content and student-teacher rapport; yet these variables gained a meagre 14% of the responses. The problem arising from this situation is that while teachers continue to 'blame the victim' for learning problems there is little likelihood that they will examine their own classroom practices or rethink the ways in which they work with these students (Soodak & Podell: 1994).

Twenty-six years ago Lembo (1971, 7) wrote, 'While there are many complex factors, physical, psychological, economic and sociological, which account for each child's school performance the basic cause of failure is the schooling process itself. Students do not enter school as failures; when students 'fail' it is the practices which teachers and administrators individually and collectively employ that are at fault'...(and)...'unless the classroom teacher's policies and practices are viewed as the most significant conditions in determining the direction and quality of classroom learning, and unless attempts at improving classroom learning focus on the formulation of more effective teaching policies and practices, there will be no significant reduction in the number of students who year after year become alienated from the educational process'. I put it to you that the same perspective is true in 1997.

While it is common practice in schools to 'blame the victim' when failure occurs in the learning of basic skills, it is much more useful to teachers for examine their own teaching methods and the suitability of their own curriculum (Bearne: 1996; Stradling, Saunders & Weston: 1991.). Methods of instruction and curriculum content are very powerful influences on student achievement. As Elliot and Garnett (1994, 6) have indicated, with particular reference to the learning of basic mathematics, some students are 'curriculum disabled' and are 'victimized by instruction that is ill suited to their needs'.

Stradling et al (1991) list some within-school factors which, coupled with a student's cumulative experience of failure and frustration, may contribute to learning difficulties, low achievement and reluctance to learn. The list includes:

- teachers' low expectations
- individual learning needs and difficulties not recognised
- inadequate monitoring and record keeping
- lack of short-term learning goals
- irrelevant course content
- teaching methods insufficiently stimulating or too rigid
- frequent changes of teacher
- in high schools, too many different teachers, too many subjects.

None of the factors in the list above are 'beyond fixing'. Indeed, they are much more readily modified than are the innate characteristics of learners. If effective teaching to reduce failure is to increase in schools, teachers must surely recognize the power of good quality instruction.

### **Contemporary classroom practices**

My belief is that, over the past twenty years, teachers have been encouraged to adopt teaching methods which, although suited to the motivation and style of independent learners, and suited to areas of the curriculum where enquiry and discovery are obviously needed, actually place poorly motivated and inefficient learners at risk of failure when applied to the learning of basic skills (Graham & Harris: 1994 Pressley & McCormick: 1995). Regardless of how these students function outside school, in school they appear not to have effective task-approach strategies and self-management necessary for independence in school-type learning. In the classroom, they experience much failure and frustration when left to tackle tasks on their own. As a result, they don't feel successful or empowered. Their motivation and confidence suffer, and they either fade into the background and become passive members of the class, unwilling to take risks, or they may become behaviour problems. A decade ago Joyce and Weil (1986, 440) recognized that some learners were marginalized when faced with classroom methods from which they don't seem to benefit. They say, 'Marginality is a condition that exists when a learner has difficulty relating to an educational environment and profiting from it'. In this situation, negative outcomes in terms of loss of self-esteem and poor motivation commonly occur.

For well over twenty years most junior primary and primary teachers in Australia have been trained in methods that can be described as 'child-centred' rather than 'teacher-directed' (Killen: 1996). In general, the role of the teacher has been presented as that of a facilitator and supporter of children's independent learning, rather than that of an instructor who presents the content of a pre-determined programme.

The official guidelines promulgated by most departments of school education in the Australian states and territories have been fully supportive of this child-centred philosophy. In most of these documents you will be hard put to find the words, 'teach', 'instruct', 'demonstrate', 'explain' and 'practice'. You will find words like 'encourage', 'facilitate' and 'support', — all very necessary but possibly insufficient conditions in themselves to ensure that optimum learning occurs for all students. Twelve years ago, Turney (1984) commented that in contemporary books on teaching methods, instructional strategies such as drill, practice, revision and review are seldom mentioned, let alone advocated. It has become unfashionable and even undesirable to see these procedures as part of the modern classroom with its stress on pupil inquiry, discovery learning, discussion and creativity. More than twelve years down the track the same comment could still be made.

In some parts of Australia it is politically incorrect to adopt a teacher-directed approach, particularly in the early years of schooling. It is as if there can be no questioning of the assumption that a child-centred approach, with an emphasis on independent learning rather than direct teaching, is the only acceptable way to operate with children in the classroom. As Michael Milone (1995, 647) has commented in relation to the teaching of literacy in schools, 'Ours has become a "one size fits all" profession, and it is rare that a dissenting or even questioning voice is welcomed, ... a naive observer would certainly conclude that there is only one way to teach reading, — the unalloyed whole language approach'. Similarly, Bartolome (1994, 176) remarks that sometimes these single methods are attributed almost 'magical properties' that render them in and of themselves capable of improving students' academic standing. We know from experience that this is not the case. On this very issue, a warning has been given by Pressley and Rankin (1994). They state that there is a very real danger that an across-the-board acceptance of less structured and indirect approaches to literacy teaching, such as whole language, may not be in the best interests of at-risk and lower achieving students. The same is almost certainly true of activity-based mathematics.

Something else taught to trainee teachers over the past twenty years or so is the concept of 'individual differences', and it is stressed that teaching should be flexible enough accommodate students' individual differences. It seems to me to be rather incongruous that on the one hand teachers are expected to recognize and cater for differences among learners, but on the other hand they are encouraged to adopt a 'one size fits all', child-centred approach to the teaching of almost everything. This was precisely the criticism that Richard Peters (1969) made many years ago in Britain when he evaluated the questionable impact of the excessive use of child-centred, enquiry methods which resulted from implementation of the Plowden Report (1967).

I put to you that the single most important difference among learners is the amount of direct teaching each individual needs. Some students require very little direct teaching, others appear to make hardly any progress without enormous amounts of direct teaching (Thompson: 1992). If we are to enable teachers to address this important difference among learners we need to ensure that, during their training, they have been presented with the full range of different teaching methods so that they are in a position to select appropriately. In this matter it is clear that direct teaching must be given a much higher profile than it currently enjoys in most teacher education courses. At the moment, it scarcely rates a mention in many university departments of teaching methodology. This viewpoint is supported by an observation made in a recent South Australian report evaluating the outcomes from the in-service training and development programme called 'Cornerstones'. The following revealing comment appears: 'Younger teachers appreciated the opportunity to explore the concept of explicit teaching which they said was not part of their (pre-service) training' (Waller: 1995, 5).

Yates and Yates (1990) have argued that the basic principles of explicit teaching should be taught thoroughly to all beginning teachers. Upon this sound foundation they will be in a good position to build their own unique teaching styles and preferred methods. The same view is expressed by Kindsvatter, Wilen and Ishler (1992) who recommend that direct teaching strategies be made part of every teacher's repertoire of skills so that they can be tied to the accomplishment of certain goals, such as teaching basic skills to students who react most positively to teacher direction.

## **The theoretical basis for student-centred, process approaches**

Why has so much attention been given to child-centred approaches? Underpinning all process approaches is the ‘constructivist’ perspective on learning. Constructivism represents the view that, rather than resulting from direct teaching, learning must involve students in acquiring knowledge and making meaning for themselves out of interacting with their social and physical environment (Merrill: 1992). The constructivist position challenges the view that true meaning and knowledge can be transmitted from a teacher to a student (Zevenbergen: 1995). Most classroom work guided by the socio-constructivist philosophy involves much group activity and cooperative learning. Walter Dick (1992), the instructional design expert, suggests that the constructivist perspective appeals to the current humanistic orientation of our public schools.

It is important, I think, to challenge some of the basic assumptions of constructivism. Is it really true that learners can only construct meaning for themselves? Is it not possible for new knowledge and meaning to be conveyed directly from one individual to another? And is direct teaching not, at times, the most effective method of presenting new information and skills? Creemers (1994b) makes the simple but pertinent comment that if you want students to learn something, why not teach it directly? Presenting knowledge directly to a learner does not prevent the individual from engaging in the process of making meaning. Indeed, clear presentations of information may facilitate that process (Pressley & McCormick: 1995).

On the important role of the teacher as instructor, Yates and Yates (1990) have observed that while learning does indeed occur through exposure to resources such as text books, articles, computers, apparatus and films, *learning also involves*, ‘...exposure to a human being who organizes and presents new knowledge to be assimilated and hence reconstructed in the mind of the student’ (Yates & Yates: 1990, 253).

In defence of explicit teaching Pressley and McCormick (1995) emphasize that direct explanation is a decidedly constructivist approach. They suggest that students do not passively learn from the explanations they receive but rather actively learn from them. They state: ‘... we believe that good instruction that includes modelling, explanations and scaffolded practice (i.e. high quality direct explanation) includes a great deal of student construction of knowledge. Modelling and explanation can stimulate constructive mental activity’ (Pressley & McCormick: 1995, 409).

### **Constructivism: a theory or an approach?**

According to Walter Dick (1992, 96), some advocates for constructivism would make it appear that the theory applies to all domains of human learning. He raises the legitimate query: ‘What are the boundaries of the theory? And, is it really a theory or is it an instructional strategy for a particular type of learning outcome?’ For example, a constructivist approach to problem solving in mathematics or hypothesis testing in science, makes good sense. A constructivist ‘find-out-for-yourself’ approach to basic literacy and numeracy learning does not make good sense. As Yates (1998, 8) has observed, ‘... requiring a child to actively discover his or her way toward a basic knowledge of literacy and numeracy is to confront that child with tasks of immense difficulty. On the other hand, exposure to good direct teaching will enable the child to develop a more substantial knowledge base that will bootstrap the child’s thinking processes in subsequent situations both in and out of school’.

Rather than being generally applicable to all types and levels of learning, it is conceivable that constructivist strategies are actually important at particular stages of learning. For example, Jonassen (1992) presents a three-stage model of knowledge acquisition:

- (i) initial knowledge acquisition
- (ii) advanced knowledge
- (iii) expertise.

He supports the view that initial knowledge acquisition may well be best served by explicit instruction, and that advanced knowledge acquisition leading to expertise may benefit most from a constructivist approach. For example, in the domain of reading acquisition, Stanovich (1994) suggests that the basic skills involved in early reading, such as word identification and decoding, may best be served by explicit instruction. Higher-order comprehension skills may represent advanced knowledge and expertise constructed upon the foundations created by direct teaching. However, there is some evidence to indicate that in Australian primary schools too little attention is given to the direct teaching of these early literacy skills because constructivist 'learn-by-doing' approaches are applied from the start (Prior, Sanson, Smart & Oberklaid: 1995).

### **Constructivist approaches and students with learning difficulties**

Pressley and McCormick (1995, 9) have observed that not all children discover the many strategies that they need to know in order to negotiate the academic demands of the school curriculum. For many of these students, the discovery process is '... inefficient at best, requiring far longer than it would to teach the same strategies to children using direct explanation'. It could be said that instructional time is not being used to best advantage for this particular group of students. It would seem that the process approach is not meeting their needs.

From my perspective, the most obvious problem experienced by students with learning difficulties in process-learning classrooms is the extremely small amount of time that most of these students actually spend each day engaged in practising basic literacy and numeracy skills. Yet educational research has consistently indicated that the amount of time a student spends actively engaged in successful practice is a key element in effective learning (Creemers: 1994a; Bennett: 1987; Rosenshine: 1995.). Student-centred, process-based approaches to learning, often involving individual assignments and group work, are extremely difficult to implement effectively with large classes. Individual students and small groups require frequent attention from the teacher, and while waiting for such attention students may spend large amounts of time off task.

It is also pertinent to point out that the process approach is not necessarily perceived as helpful by some students who are mature enough to know when their needs and expectations are not being met. Recently Vaughn, Schumm, Klingner and Saumell (1995) have reported that most students in their study wanted more direction from the teacher, especially when dealing with difficult text material. On a similar issue, Delpit (1988, 287) quotes one student as saying: 'I didn't feel she was teaching us anything. She wanted us to correct each other's papers and we were there to learn from her. She didn't teach us anything, absolutely nothing'.

What we know about the effective teaching of basic academic skills suggests that the teacher needs to go about the task of instructing children in a systematic way. To achieve this, efficient use is made of the available lesson time and the teacher has firm control of the teaching-learning process. The specific knowledge, skills and strategies needed by the students are explicitly taught through demonstration, modelling, direct explanation and guided practice, rather than being concealed within the curriculum content for the students to discover. An essential feature of effective teaching is the emphasis given to practising new learning to the point of mastery. Based on the research evidence, Good and Brophy (1994, 377) describe effective teachers in these terms: 'They teach their students rather than expecting them to learn mostly from interacting with curriculum materials on their own'.

As I have already mentioned, there is some indication that student-centred, 'process' approaches may actually set some learners up for failure since not all students possess the prerequisite knowledge and skills needed to interpret and make sense of a new learning experience (Dick: 1992). These students may need to be taught directly the appropriate skills and strategies for effective learning in a particular domain of the curriculum before 'process' approaches become viable. From a special education perspective, Lloyd (1998) gives support to this viewpoint.

Lloyd (1988) tells us that intervention research has indicated that the most effective approaches for reducing student failure rates have tended to be:

*structured* - characterised by a great deal of teacher direction in the initial stages of learning

*goal oriented* - the students are clear about what is to be achieved

*practice laden* - new information and skills are repeated and applied many times to ensure acquisition and maintenance

*strategy laden* - students are taught how to attempt the tasks set for them

*independence oriented* - although highly teacher-directed in the early stages, the learners are expected to acquire knowledge and skills which will enable them later to work independently.

I argue that children with potential or real learning problems actually perform much more successfully if directly and effectively taught. They have already proved that without a great deal of high quality, effective teaching they don't make much progress; and they rapidly lose confidence, self-esteem and motivation. So let us now explore what we know about effective teaching.

## **Effective Teaching**

What do we know already about effective teaching? The answer to this question is that, if we focus upon the teaching of basic academic skills such as reading, writing, spelling and mathematics, we know a great deal. Comprehensive reviews of the research on effective teaching of basic academic skills include those of Rosenshine (1986, 1995), Kauchak and Eggen (1989), Waxman and Walberg (1991), Kindsvatter, Wilan and Ishler (1992), Barry and King (1993), Good and Brophy (1994), Pressley and McCormick (1995), and Killen (1996). It can be firmly concluded from this research that teacher behaviour in classrooms is positively related to student achievement (Creemers: 1994a).

Teachers who help students to be successful in basic academic skills such as reading, writing and mathematics, tend to exhibit a particular set of characteristics within their general approach to teaching. Most of the reported research presents the view that when teaching basic academic skills an effective teacher exhibits the following attitudes and behaviours. The teacher:

- creates a supportive learning environment
- accepts responsibility for actively and directly teaching the students
- believes in his or her ability to instruct students successfully
- believes in students' ability to learn
- makes optimum use of available time through effective management
- covers the curriculum content thoroughly, in manageable amounts, at a reasonable pace and at a high rate of success
- uses explicit teaching procedures such as demonstrating, modelling, explaining, questioning and corrective feedback

- provides abundant opportunities for students to engage in guided and independent practice and application
- teaches adaptively, by closely monitoring the progress of students and providing re-teaching and extra practice where necessary
- also encourages peer assistance and cooperative learning
- revises and reviews previous learning at very regular intervals.

In an excellent summary of direct teaching, Killen (1996, 9) has written: ‘...to be an effective teacher you need the knowledge and skill to present information clearly, using a variety of strategies that allow you to remain task oriented and that engage the students in learning processes in which they can experience reasonably high levels of success’.

Phillips et al. (1996) suggest that key features of effective teaching include:

- brisk pacing of instruction
- variety in format of presentation
- active student involvement
- motivational strategies
- formative (on-going) assessment
- completion of activities.

Studies of exemplary teachers (e.g. Tobin & Fraser: 1991) have indicated that although expert teachers differ in their actual style of teaching and management, they all tend to use strategies which maximize student time-on-task, encourage active participation, ensure that students understand the work and that they can perform successfully. These teachers also create a positive and supportive classroom environment.

As I have indicated already, a number of authorities suggest that some students make much better progress in basic academic skills when directly taught (Lloyd: 1998. Thompson: 1992. Kameenui: 1993. Pressley & McCormick: 1995). In particular, slower learning students, poorly motivated students, and students from educationally disadvantaged backgrounds appear to acquire basic skills more rapidly when taught by explicit methods involving a great deal of teacher modelling and guided practice. However, Kindsvatter, Wilen and Ishler (1992, 231) suggest that explicit teaching actually has a much wider application than merely working with students with special needs. They state: ‘As to which learners benefit most from this systematic approach, research tells us that it is helpful for young children, slower learners, and students of all ages and abilities during the first stages of learning informative material or material difficult to learn’.

There is also a tendency to picture the stereotypical ‘direct teacher’ described in the effective teaching research as one who is authoritarian and dehumanised. This is not the case as all. Rather than being a clinical form of instruction, explicit teaching is carried out in an environment of cooperation and trust. The research has indicated that effective teachers are actually warm, concerned and flexible in their general approach to students (Kindsvatter, Wilen & Ishler: 1992). This is also reflected in the comments made by students themselves. Notice in the following list that students are very conscious of both the pedagogical skills of good teachers and their empathic and caring characteristics.

According to Batten, Marland and Khamis (1993), students in Australian schools describe a 'good' teacher in the following terms.

A good teacher:

- helps you with your work
- explains well so you can understand
- is friendly and easy to get on with
- is fair and straightforward
- makes lessons enjoyable
- cares about you; is always ready to listen; understands you
- has a sense of humour
- controls the class well
- knows what he or she is talking about.

I wish today to focus on four of the most important teaching behaviours embodied within the effective teaching model. They represent teaching skills which are crucial for preventing confusion and reducing learning failure in students. I will explore with you the vital importance of clear presentations and explanations, effective questioning, the teaching of task-approach strategies; and the issue of adjusting instruction to individual differences.

### **Some selected features of effective teaching**

#### *Presentation and explanations*

Presenting information to children and providing explanations are two of the main activities in which teachers engage. In a methodology text *Explaining*, Wragg and Brown (1993, 3) define successful explaining as 'giving understanding to another'. I stress here 'successful' explaining, as it is clear that a great deal of unsuccessful explaining also takes place in some classrooms. According to a study by Smith and Meux (1962; cited in Wragg & Brown: 1993), it appears that the greatest source of confusion in children is lack of precision in teachers' explanations. It is extremely easy to create learning problems by poor presentation of information and garbled explanations. Effective teaching requires, above all else, clarity in presentation and explanation. Teachers striving to reduce failure rates in their classrooms need to attend closely to issues of clarity. One of the most self-revealing activities teachers can engage in is to record on audio-tape an entire lesson and later appraise and reflect upon the quality and clarity of their own communication.

In describing the behaviour of what he terms 'clear teachers,' Eric Sotro (1994) indicates that clarity involves:

- knowing your subject
- being able to see to the heart of the matter
- being able to see the matter from the learner's perspective and
- the ability to explain things in simple terms.

Poor explanations usually get learners confused and therefore create learning problems. This occurs through lack of clarity, use of complex terminology, failure to draw analogies or give examples to which the learner can relate, and presenting too much material at one time.

Expert teachers who obtain consistently good results from students in their classes are reported to incorporate the following features within their lessons (Bush & Kincer: 1993):

- efficient initial presentations of new work
- clear and precise instructions

- a greater variety of ways of explaining topics
- more frequent reviews and revision of work.

Of course, high quality explanations are not restricted to the teacher's domain; children can and do explain things to one another in class. Sometimes they do this very effectively indeed because they are able to empathize with a fellow learner at a similar stage of development and use just the right language or examples to make a point clear. I still remember being taught how to carry out the long division algorithm by the boy I was sitting next to in primary maths class. He was for me a much more effective communicator, and much less threatening, than the class teacher. The fact that I can still remember this incident fifty years later must say something about the impact and quality of peer tutoring.

The value of student-to-student explanation strongly supports the notion that collaborative and cooperative work in the classroom is an essential part of effective teaching and learning. Group work certainly increases the opportunity for productive discussion among students, which is something known to facilitate learning. It also supports the value of peer and cross-age tutoring as a classroom organizational strategy. These less-formal practices are often thought not to be compatible with the effective teaching model. This is quite untrue.

### *Questioning*

Kauchak and Eggen (1998) state that questioning is the most widely used strategy in classrooms, and questioning is used to instruct and motivate learners and to diagnose their learning.

Effective teaching must involve careful attention to classroom questioning. According to Wasserman (1992), asking the right questions is 'the essence of good teaching'. A sound guiding principle for all teachers was provided by Clopton (1992) when he wrote, 'Ask questions that build confidence'.

According to Cole and Chan (1987) questions should be used for the following purposes:

- to facilitate communication
- to focus attention on key aspects of a topic
- to evaluate students' understanding
- to review essential content
- to stimulate particular types of thinking
- to control the group and hold attention.

Research on teachers' use of questioning indicates a connection between higher achievement and the types of questions asked (Brophy & Good: 1986. Cole & Chan: 1987). Teachers in classes showing the highest achievements were found to ask many questions during their lessons, with very few questions yielding incorrect responses, or no response from the students.

It has been demonstrated that children with poor learning skills seem to benefit from instruction that includes a high percentage of simple direct questions, focusing on the core content of the lesson (Brophy & Good: 1986). It is as if answering these questions helps to firm up a student's grasp of the topic. These core questions are referred to as 'lower-order questions', and it has been suggested that about eighty percent of classroom questions should be of this type. Cole and Chan (1987) indicate that if students are struggling to assimilate basic facts, then it is usually necessary to ask more questions from the lower-order category. On the other hand, if development of critical thinking skills is the target, then more higher-order questions are necessary. However, it is interesting to note that lower-order questions

have also been found to result in gains in higher-order outcomes and should certainly be used to advantage, even with the most able students (Good & Brophy: 1994).

Another aspect of questioning that has been examined is the phenomenon of what is called 'wait-time'. Rowe (1978, 1986) analysed audio-tapes of lessons and discovered that teachers often asked between three and five questions a minute, but allowed only a second or so for a child to respond before asking someone else, or providing the answer themselves. When teachers deliberately extended their wait time to 3 seconds or more when they asked a question, *and* after a student's response, the following things occurred:

- the length of the student's response increased
- the number of responses increased
- failure to respond decreased
- confidence appeared to increase
- the incidence of speculative thinking occurred
- more child-to-child interaction increased
- children made more inferences and presented more evidence in support of what they said
- the number of questions asked by students increased
- contributions from slower students increased
- disciplinary problems decreased.

In addition to not giving students time to think or respond, some other common errors in questioning include:

- asking too many difficult or poorly expressed questions.
- continuing to ask questions even though the students have indicated lack of knowledge on the topic
- taking answers only from students who volunteer
- not providing feedback on incorrect or inappropriate responses.

Let us now turn to the issue of teaching students how to go about their learning with maximum efficiency.

### *Teaching task-approach strategies*

Effective instruction must include a focus on teaching students efficient ways of approaching the tasks they are set. This is of particular importance for students with learning problems who commonly exhibit poor or inefficient learning styles (Ashman & Conway: 1989. Cole & Chan: 1990. Graham, Harris & Reid: 1992. Westwood: 1993).

When introducing new tasks, the teacher who says to the class 'Watch me carefully, and listen to what I say to myself as I do this' is much more likely to be paving the way to successful first attempts by the students than is the teacher who says, 'See if you can work this out for yourself', — often an invitation to failure and confusion for students lacking in confidence and independent learning skills. One of the ways in which we can improve learning outcomes for students at risk of failure is to become much more efficient in our presentation and modelling of task-approach strategies.

In task-approach strategy training students are explicitly taught, usually via clear modelling, demonstration and 'thinking aloud' by the teacher, precisely how to go about such tasks as decoding an unfamiliar word in a text, making a summary of the key points after reading a page from a textbook, planning and composing ideas for a piece of writing, solving a mathematics word problem, or researching for a special project.

Usually the teaching of a strategy includes some element of metacognitive training, in which the students think about their own thinking in relation to the task at hand, and begin to develop useful self-monitoring and self-correcting skills. In other words, when teaching efficiently, we devote much more time than is usual to thinking about the actual *processes* involved in completing classroom tasks, as well as having regard for the quality of the product. We make the processes explicit. The topic of process-based instruction for all children is well presented in Ashman and Conway's text (1992) *Using cognitive methods in the classroom*.

In student-centred approaches we tend to assume that students have effective task-approach strategies, or will develop them incidentally while undertaking set work. To avoid placing some students immediately in a failure situation, it is much more beneficial to teach them first *how* to do the work.

### *Adapting instruction*

The fourth and final component of effective teaching that I wish to discuss is that of responding to differences among students. This practice is sometimes referred to in Australia as 'teaching adaptively'. The term used widely in Britain is 'differentiation in approach' (Bearne: 1996). I notice also that the term 'differentiation' has now replaced 'adaptive instruction' in the most recent edition of the American text *Looking in Classrooms* (Good & Brophy: 1994). Adaptive or differentiated instruction is defined as instruction geared to the characteristics and needs of individual students (Creemer: 1994a). Research seems to indicate that, when skilfully implemented, differentiated practices improve student learning (Waxman, Wang, Anderson & Walberg: 1985).

Perhaps the most extreme form of adaptation to difference among students is reflected in moves toward individualised programming. Certainly in the past a great deal has been written about the need to cater for individual differences among students by providing each child with his or her own programme and allowing students to learn at their own preferred rates. At one stage this model was almost held up as the ideal, with computer-aided instruction being one possible way to achieve it.

Recent thinking suggests that any extreme form of individual programming is a very difficult approach to take. As Brandt (1992) has pointed out, the flaw in programmes of individualisation is that students get further and further apart, not closer, in their attainments. Individualisation to this degree tends to exaggerate and maintain differences among students, not close the gap. One must certainly question whether any extreme form of individualised programming, with children all doing quite different work, is compatible with our current notion of 'inclusive' practice. Contemporary views on social justice and equality of opportunity leads some writers to suggest that *all* students have the right to be exposed to the mainstream curriculum in a reasonably unadulterated form (Ainscow & Muncey: 1990). Others would argue that in order to give students equal opportunity to learn, we need to use alternative or modified programmes and differentiated teaching approaches (Westwood: 1993).

There may be very sound reasons for individualised programmes at times for students of very high ability or for those with severe and multiple disabilities. However, rather than looking to complicated individualised programming to improve learning outcomes for students with mild learning problems, it is more useful to consider how whole-class teaching, combined with appropriate and flexible grouping and inclusive practices, can be made more adaptive to individual needs.

Effective teachers already do much to adapt the processes of instruction while lessons are in progress. For example, the following tactics are frequently observed:

The teacher

- simplifies and restates instructions for some children
- re-teaches, or provides an additional demonstration
- gives more descriptive praise to certain students
- praises some students more frequently
- rewards different students in different ways
- sets shorter-term goals for some students
- monitors some students more closely than others
- provides more (or less) assistance to students as they work
- moves the seating position of one student during a lesson
- accepts different quantities and qualities of book work
- asks questions of different degrees of complexity.

In Britain, Ann Lewis (1992) has identified eleven ways in which useful differentiation in approach might occur to allow more students to access the National Curriculum in that country. Her specific suggestions are:

*curriculum content changed:*

This may also involve the design of different curriculum materials and resources. The content in the programme may be reduced or simplified. The common objection to curriculum adaptation is that some students may experience only a 'watered-down' and potentially inferior version of mainstream work (Dyer: 1991). A positive outcome may be that the students with learning difficulties receive an alternative programme which is real and relevant to their needs (Fuchs & Fuchs: 1995).

*drawing upon students' interests:*

This is said to be particularly important for poorly motivated students (Rees & Young: 1995). As an approach, it is relatively easy to implement in the early school years but much more difficult in the upper years where curriculum content is clearly prescribed. In secondary schools in particular, it is usually only possible to create a curriculum around students' personal interests in the context of alternative programmes or special classes. However, the practice of establishing such special groups and alternative courses has been challenged in recent years on issues of social justice and equity.

*pace:*

This means (i) allowing some students more time to complete work, (ii) to provide for extension activities for others, and (iii) sometimes involves teaching certain groups directly and at a very brisk pace to accelerate the learning rate of low achievers.

*level:*

All students study the same topic but the teacher sets different degrees of complexity in what students are asked to do. This notion is well illustrated by McGrath and Noble (1993) in their chapter titled *Twelve ways for children to work on the same topic at different levels*. This adaptation has immediate implications for the preparation and designing of resource materials.

*access:*

Allowing students different pathways into a topic. For example, using computer presentation or audio or video-tape to provide non-text coverage; providing apparatus of pictorial resources for some students to use. Also allowing for peer or teacher-aide assistance.

*response mode:*

Modifying response modes in the classroom might involve allowing some students to use a scribe, or to tape-record answers; using multiple-choice tests or pictorial work-sheets rather than long essay formats.

*sequence:*

This involves changing the order in which sub-topics are presented. Again, this is easiest with young children.

*structure:*

All students working on the same topic but the teacher provides step-by-step coverage for some students while others progress more independently.

*teacher time:*

The teacher will devote more (or less) attention to individual students during the lesson and in follow-up.

*teaching style:*

This involves varying the way in which topics are presented. A useful chapter on varying teaching styles and learning styles can be found in Bechtol and Sorenson (1993).

*grouping:*

Using one's knowledge of student characteristics and needs to establish flexible grouping to achieve specific outcomes.

It is implied, of course, that these strategies for differentiation be used in various combinations for maximum value. For example, the grouping of students within the classroom is one obvious organisational strategy which will facilitate some degree of adaptation. But to make grouping truly effective it is also necessary to have differentiated curriculum materials available (Creemers: 1994b).

No one suggests that adapting curricula and instruction to individual needs is easy. However, effective teaching does require that teachers recognise different aptitudes and learning needs in any group of students. As Wang (1992, 1) suggests, 'Creating effective, practical school learning environments that are responsive to the diverse needs of students has been a continuing challenge in school reform efforts'.

### **Student-teacher rapport**

Skilled teachers have something else of importance that sets them apart from less successful teachers. That something appears to be a positive rapport with, and genuine respect for, the students they teach (Agne, Greenwood & Miller; 1994. Duffy: 1990). Effective teachers blend their instructional skills with a more personalised and responsive approach to their students. Effective teaching combines human relations skills, judgment, intuition, knowledge of subject matter, and an understanding of learning into one unified act, resulting in improved learning for all students (Kauchak & Eggen: 1989).

To be an effective teacher takes much more than technical knowledge about instructional procedures. A sound theory of instruction is of no value without the ability to get on well with students and develop a close rapport (Ainscow & Tweddle: 1979). However, it is equally true to say that simply establishing rapport and getting on well with students creates a necessary, but in itself insufficient, condition for minimising learning failure. I have argued today that explicit teaching, particularly in the basic academic skills, provides the other essential ingredient for successful learning.

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