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THE ELIMINATION OF A CHILD'S DISRUPTIVE BEHAVIOUR IN THE CLASSROOM BY CHANGING THE TEACHER'S RESPONSE

L J V Baker*, S Moola and S Willoughby
Psychology Department
Trinity College, Dublin

Extensions of behaviour modification procedures to the classroom have shown the importance of the teacher s reaction in maintaining aggressive and non-study behaviours One eight year old boy chosen for his particularly disruptive classroom behaviour was the subject of this study together with his twenty year-old woman teacher Preliminary monitoring of the pupil teacher interaction led to five problem behaviours being chosen *out-of seat, off task non compliance shouting* and *aggression* A six-day multiple baseline suggested that the teacher's attention to these behaviours was maintaining their unacceptably high rates The teacher was then instructed in the systematic use of attention and praise as consequences for classroom behaviour During the subsequent six-day intervention period the rate of the problem behaviours fell and desirable classroom behaviours (*in seat on task*, and *compliance*) increased Three months later a four-day follow up showed that the improvement in the child s behaviour had been maintained

Behaviour modification is slowly but surely increasing its impact upon social problems This study set out to deal with one of those problems the disruptive behaviour of a child in the classroom It shows what the teacher can do to achieve a happier classroom through the use of the principles of behaviour applied systematically

Teachers are sometimes unaware of the effects of their own actions on the behaviour of their pupils Many assume that if a child perfoims disruptive acts in the classroom, there is little the teacher can do about it because the origins of the problem are seen to reside in the home, or in the pupil's lack of maturity However, an increasing body of evidence indicates that many of the behaviours which teachers might call undisciplined are actually within their own control It may come as no surprise to some to hear that it has been shown that the teacher can modify and control the behaviour of her pupils by controlling her own reactions to their behaviour

Reports of the systematic modification of the classroom behaviour of pupils have been appearing at an increasing rate since the 1960s, especially in the University of Kansas publication, *Journal of Applied Behavior Analysis*

* Requests for off prints should be sent to L J V Baker 26 Westland Row Dublin 2

This journal is '... primarily for the original publication of experimental research involving applications of the experimental analysis of behaviour to problems of social importance.' The techniques of the 'experimental analysis of behaviour' derive from the findings of operant conditioning. Many studies have applied behavioural analysis in schools to increase the frequency of desirable classroom behaviours and to decrease the frequency of behaviours that disrupt the children's progress (11).

Various behaviours such as walking, standing, and running (2), talking and crying (5), as well as general classroom conduct (1, 12) have been shown to be modifiable in frequency by the contingent use of social reinforcement by the teacher, especially the teacher's attention. Studies of adult social reinforcement of the undesirable behaviour of children have shown that to use teacher attention contingently requires special skill and that it is very effective. For example, contingent teacher attention has been used to maintain a reduced rate of aggressive behaviour (9); to achieve this, a teacher was instructed to ignore the child's aggressive behaviour and to attend instead to whichever child he was attacking. This technique decreased the aggressive behaviour to an acceptable rate. It has also been shown that when teacher attention followed study behaviours and did not follow non-study behaviours (which were just ignored), the rates of the study behaviours sharply increased (3).

Madsen, Becker and Thomas (6) reported that they found that by controlling the ways in which teachers responded to their pupils in the classroom they could produce problem behaviour. They also found that teachers with various backgrounds and personalities could be trained to control their own behaviour systematically in ways which improved the behaviour of the children. A study by Madsen, Becker, Thomas, Koser and Player (7) clearly showed how some forms of critical comment actually strengthen behaviour. The more a teacher told her first-graders to sit down, the more they stood up. In order to get them to sit in their seats and to remain there she had to praise them directly for sitting down and for being seated.

Hamblin, Buckholdt, Ferriter, Kozloff and Blackwell (4) reviewed study after study which showed that when a child persisted in behaving badly, some adult, usually quite unintentionally, had been reinforcing the behaviour. Hamblin *et al* hold that children behaving badly do so because they are inadvertently 'acculturated' to do so; that means that they are somehow being rewarded or reinforced when behaving badly. These authors are therefore arguing that teachers, and parents too, create pathogenic

learning environments for children by reinforcing their problem behaviours

One basic principle of behaviour is that it is a function of its consequences (10) Therefore, if we wish to change behaviour we must change the consequences Although it may not be immediately apparent what the consequences of controlling classroom behaviour are, thousands of hours of observation have revealed that teachers often provide positive reinforcers for the very behaviours which are causing them distress What is more, they often specifically avoid the use of what they think are rewards, and to cap it all, what they often assume to be punishment and hope will decrease the incidence of the behaviour, turns out to be the opposite a reinforcer which increases it As Hamblin *et al* said 'This whole process is inadvertent in that the teachers seldom become aware of the reinforcing consequences of their actions' (4, p xi) They believe that this unfortunate state of affairs can be avoided by arranging alternative conditions for the behaving child in which behaving normally is rewarded systematically and meaningfully and in which behaving badly earns nothing

The study we report here aimed at eliminating some problem behaviour as well as increasing appropriate and desirable classroom behaviour of one disruptive pupil The technique employed was to change the consequences of the behaviour by changing the ways in which the child's teacher behaved when the child acted in appropriate or inappropriate ways in class

METHOD

Subject

The subject was an eight year old boy attending a Dublin school He was in second standard and was nominated by his teacher for the study as he was considered a particularly disruptive pupil According to the teacher, who had 47 boys in her class, the class was a 'good' one except for our subject who was reported as being aggressive toward his peers and as displaying little interest in his classwork He had three older brothers and two sisters and it was reported that his parents exercised very little control over his movements

Agent

The agent of behaviour change was the teacher She was 20 years old when it began and had been teaching for just over a year after completing a two year teacher training course She had expressed concern for the boy and had volunteered to take part in the study in order to improve his behaviour

Setting

All observations and recordings were conducted in the classroom with the teacher present and when the subject was engaged in normal classroom activities. The observer sat at the rear of the room avoiding eye contact with the boy or any of the other pupils. The 20-minute session lasted from 1.45 to 2.05 pm. This time was selected as the teacher's reports indicated that the problem behaviours were reliably evident then.

Apparatus

No apparatus was required. The behaviours of interest were recorded on sheets especially designed for the purpose. The sessions were divided into one-minute blocks of time and the number of occurrences of the significant behaviours were recorded for each. The observer worked alone so no inter-observer reliability measures are available. A stop-watch was used for the timing.

Design

A multiple baseline design was used in which concurrent recording of the behaviours of interest of both the pupil and teacher took place. The data were processed and the session-by-session frequencies derived were plotted as the study proceeded. Four phases comprised the whole study: a pre-baseline observation period of four days, a six-day baseline period for recording the actual incidence of the behaviours before intervention, the intervention period of six days, and finally, there was a four-day follow-up three months later to see if the effects were lasting.

Categories of Behaviour

The behaviours of interest of both the pupil and the teacher had to be carefully defined to facilitate recording. The categories and their definitions were as follows:

In-seat – when the boy was judged to be actually seated for a period of one minute.

On-task – when the boy was reading, writing, talking with permission, or paying attention to the lesson.

Compliance – obeying a request of the teacher, putting up his hand to answer a question, or answering a question.

These behaviours comprise the desirable study behaviours and are the so-called appropriate behaviours of the pupil. The problem or disruptive

behaviours, the so-called inappropriate behaviours were
Out-of seat – when the boy was judged to be not sitting on his seat during a one minute interval It did not include time out of his seat with permission from the teacher
Off task – looking around at others, talking without permission and fiddling with things on his desk
Non compliance – not obeying the teacher's verbal instructions and not putting up his hand when told to do so
Shouting-out of turn – interrupting or exclaiming without the permission of the teacher or when not specifically asked a question
Aggression – pushing, striking, or kicking another pupil

The two categories of the teacher's behaviour were as follows
Approval – a general class of behaviour including verbal praise such as saying 'That's good' or 'I like the way you are doing your work', or 'You're doing fine', as well as calling the boy by his name in a positive manner, smiling at him, moving close to him and touching him
Disapproval – another general class including shouting at the boy, scolding or critizing him, naming him in a reprimanding fashion, giving him stern disapproving looks and touching him in a negative manner

Procedure
Pre baseline The class's general behaviour was observed and the behaviour of the subject was viewed in relation to his peers to discover whether there had been any bias by the teacher in her selection of the subject as a child with problem behaviours This took two sessions A further two were spent identifying the type and frequency of the classroom behaviours suitable for the intervention planned During this time the class also became used to the observer's presence Pre baseline sessions took place on alternate class days Monday, Wednesday, Friday, and the following Monday

Baseline Six daily sessions were spread over 19 calender days Recordings were made of both the boy's behaviours and the teacher's response to them No attempt was made to manipulate or change the teacher's response at this stage, however, due to the teacher's practice of shifting the boy from one seat to another it was suggested that he should be given a specific and permanent seat, and this was done in Session 7 Baseline sessions took place on Wednesday and Friday of one week, continued on the Monday, Tuesday, and Wednesday ten calendar days later, and ended after another gap of four calendar days on the Monday of the following week This lengthy period was due to the boy's absence from school

Intervention. This took place during Sessions 7 to 12 inclusive. This period was spread over five consecutive school days of one week and ended on the following Monday. The plan of the intervention was to modify each target behaviour in turn, one being dealt with before paying attention to the next one. This procedure was begun but proved impossible to carry out completely in the time available. *Out-of-seat* behaviour was chosen for modification first because of its high baseline rate and because of its fundamental importance for good study behaviour. The teacher was given general instructions to ignore all of the boy's inappropriate behaviours, including *out-of-seat,* and to reinforce selectively by various approving behaviours, incidences of *in-seat* behaviour. The first session of this showed that the teacher had difficulty with the procedure and it was changed. She was instructed to continue ignoring all inappropriate and disruptive behaviour both during the session and at other times in class as before but to switch her approval from *in-seat* to *on-task.* She was given the specific definition of the target behaviour as well as instruction as to how to 'catch the child being good'. She was also given extra instruction on praising the boy for his good behaviour. The teacher also reinforced *compliance.* This procedure was kept to for the remainder of the intervention period. After each intervention session, the observer provided feedback to the teacher on her performance during the session. She was shown graphs of the boy's progress and was given verbal praise and encouragement for her efforts.

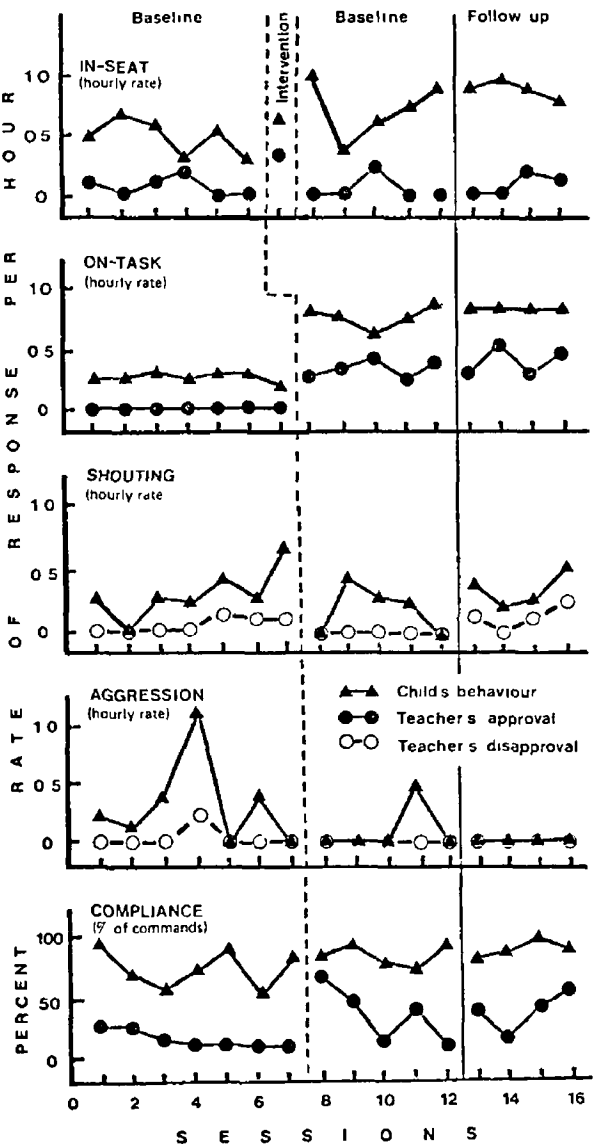
Follow-up. About three months later (83 days), there was a follow-up period in which the baseline recording was repeated. No instructions were given and the follow-up was unannounced. Observations were made during Sessions 13 and 16 inclusive, the first three being consecutive class days, Monday to Wednesday, and the last one being the following Monday.

RESULTS

Pre-baseline observation and baseline recordings confirmed the teacher's reports of disruptive behaviours. The boy frequently violated classroom rules involving *out-of-seat, off-task* and *shouting-out-of-turn. Aggression* and *non-compliance* were also problems. The multiple baseline graph in Figure 1 gives the rates of the behaviours recorded for the subject except for one, *compliance,* for which rate measures are inappropriate. This is because *compliance* can only occur if the teacher gives the boy an opportunity to comply by asking a question or giving an instruction. The figure also gives the teacher's responses to the pupil's behaviours. It can be seen that during the baseline, *on-task* behaviour was receiving no approval from the teacher

FIGURE 1

FREQUENCY OF THE CHILD S BEHAVIOURS AND TEACHER S APPROVAL OR DISAPPROVAL IN BASELINE INTERVENTION AND FOLLOW UP PERIODS



whatever, whereas *aggression* and *shouting* were receiving *disapproval* from the teacher. *Disapproval* turned out to provide sufficient attention in the context of very little attention of any positive sort to act as a reinforcer which maintained the relatively high rates of the disruptive behaviour. For example, when in Session 8 and subsequently *disapproval* for *shouting* was stopped, the rate of *shouting* declined. Similar findings occurred in the case of *aggression* and the effect continued into the follow-up. *On-task* behaviour was reinforced with *approval* from Session 8 and there was a marked jump in the rate of the behaviour. This also continued into the follow-up period. *In-seat* behaviour showed a similar increase and continuation into the follow-up three months later. *Compliance* was not changed a great deal, but the teacher's response to it was. There was a marked increase in the intervention period above the baseline level even though it was erratic. This effect was also sustained into the follow-up sessions.

Summary data for the behaviours are presented in Table 1. Mean hourly rates of responding are given for the three experimental periods, together with the percentages of change for those behaviours expressed as the change in the intervention over the baseline and the change in the follow-up compared to the intervention. It can be seen that all of the five disruptive behaviours are down in rate, the biggest fall being for *aggression* which dropped to only 10% of its baseline rate. *Shouting* was reduced the least, down to only 70 per cent. In the follow-up, the reduction continues in the case of three of the five behaviours: *off-task, out-of-seat,* and *aggression,* the last one dropping to zero per cent. *Non-compliance* persisted at the level of the intervention rate and *shouting* once more remained persistent. All of the three appropriate behaviours are increased above the baseline rates, *on-task* being the most responsive; it was raised to 275% of the baseline rate whereas *compliance* was raised only to 106% and in fact falls slightly in the follow-up. The other behaviour, *in-seat*, maintains its improvement. The teacher's rate of response to the disruptive behaviours is down in the intervention as was hoped, and her response to the appropriate behaviours is up. In particular, *on-task* behaviour receives a great deal of *approval,* both in the intervention and in the follow-up, where it occurs at a rate ten times more frequently than for any of the baseline rates of the appropriate behaviours.

The change produced in two of the key problem behaviours and in two of the behaviours which are fundamental to good classroom behaviour are illustrated by histograms in Figure 2. The mean rates per hour of the behaviours are given.

TABLE 1

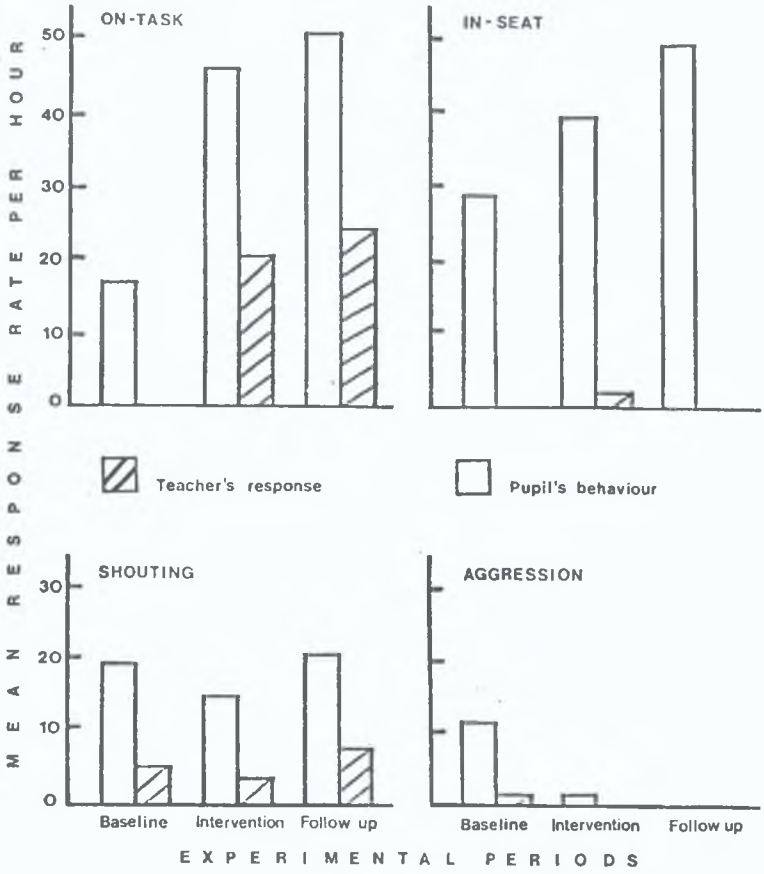
HOURLY RATES OF THE BEHAVIOURS RECORDED DURING THE THREE PHASES OF THE STUDY
(Unbracketed units are the mean hourly rates of the responses listed
bracketed percentages express the changes produced in these rates *)

	BASELINE		INTERVENTION		FOLLOW UP	
	Pupil s Behaviour	Teacher s Response	Pupil s Behaviour	Teacher s Response	Pupil s Behaviour	Teacher s Response
Disruptive						
Off task	30 0	3 0	12 0(40%)	0 6	9 6(80%)	4 8
Out-of-seat	24 6	2 4	12 6(51%)	0 6	11 4(90%)	1 8
Non compliance	10 8	1 8	3 0(28%)	0 6	3 0(100%)	2 4
Shouting-out-of turn	19 8	5 4	13 8(70%)	3 6	21 0(152%)	7 8
Aggressive behaviour	10 5	0 5	1 0(10%)	0 0	0 0(0%)	0 0
Appropriate						
On task	16 8	0 0	46 2(275%)	20 4	50 4(109%)	24 0
In-seat	28 8	0 0	39 0(135%)	0 6	48 6(125%)	0 0
Compliance	19 8	2 4	21 0(106%)	7 8	18 0(86%)	6 0

* Percentages listed under intervention are precentages of baseline rates, those listed under follow up are percentages of intervention rates recorded

FIGURE 2

MEAN HOURLY RATES OF FOUR OF
THE CHILD'S BEHAVIOURS AND THE TEACHER'S ATTENTION
FOR BASELINE, INTERVENTION, AND FOLLOW-UP PERIODS



DISCUSSION

The data reported here clearly indicate that the behaviour of the teacher is crucial to the classroom behaviour of our single subject and, further, that the teacher's reaction to both disruptive and desirable good study behaviours is what changes and/or maintains those behaviours

Our teacher did not have poor general control of her class, in our opinion, although we have no data to show this Most of the pupils applied themselves fairly well, the boy who was the subject of this study was the exception Our teacher was initially unfamiliar with reinforcement principles and had no prior training with the procedures involved Understandably then, she found it extremely difficult to ignore unwanted behaviour The attention she gave to the unwanted behaviour was apparently the important maintaining event – a reinforcer When the baseline data were in, this became clearer and the subsequent functional analysis of the role of the teacher's response during intervention gave confirmation Although our teacher had been instructed to praise *in seat* behaviour in Session 7, the first intervention session (see Figure 1), she paid attention instead to *out-of seat* behaviour by scolding the boy, calling him by his name in a reprimanding tone and commanding him to sit by shouting 'sit down' whenever he stood up All this is quite the normal thing for a teacher to do to control a class, unfortunately its effect can be the opposite of what is expected What the teacher (and most people) assume to be punishment of the bad behaviour turns out to be the very event that makes the bad behaviour happen more often In other words, scolding and reprimands are reinforcers if that is the only way a child manages to get the teacher's attention The situation gets worse as the cycle proceeds, the negative attention producing more disruptive behaviour which results in more scolding and reprimands and so on

On the second intervention day (Session 8) the procedure used was correct and, from then on, things did improve, even over the relatively short time available

We feel that teachers and parents should become aware of this use of positive social reinforcement when attempting to cope with disruptive children What usually happens is that the wished for behaviour is taken for granted when it occurs and is not rewarded Attention is paid only when the child misbehaves Some feel it is the child's duty to be good and therefore the use of rewards is uncalled for Our teacher reported that she felt that she should only praise 'when really necessary' It may not take much for teachers to change their classroom procedures if our findings are

anything to go by. But it is asking quite a lot to expect a teacher with a lot of experience to suddenly begin to do the opposite of what he or she has been doing so often in the past in similar situations, and it is a tribute to our teacher that she was so effective so soon.

Some further comment on the data is in order. On the first day of the intervention (Session 7), *in-seat* was the target behaviour, but *out-of-seat* received the attention. Both *shouting* and *off-task* increased. This may have been due to the generalization from reinforcement of one member of the class of disruptive behaviours, namely *out-of-seat*, to other members, *shouting* and *off-task*. Such a 'snowball' effect is unfortunate when it works this way to produce more unwanted behaviour, but it can work the other way too when reinforcement is given. We have an example of that also. Our teacher reported to our observer that in addition to an improvement in the chosen target behaviours as we have seen, another study behaviour was showing the effect too. She reported that the boy's writing had improved, and samples taken before and after intervention showed the effect.

This generalization was not confined to the behaviour reported this far; another instance of it happened at the same time as the improvement in the handwriting (Session 9). On that day the boy's general conduct in class was seen to be markedly improving, so much so that he was elected the 'super-dooper' of the class on that day; his name was written on the board for being the best behaved and he was privileged to lead the class to their coats before going home. On the day of Session 10 the boy was given a Christmas hat for being 'good' and was put in charge of the class library. The next day the improvement continued. The teacher expressed surprise at the improvement in his behaviour; she also discovered that if she treated the other children in a similar manner, instead of scolding them, their behaviour improved also. In fact, the improvement all round prompted the ending of the intervention after one further day; by this stage the problem behaviours had decreased to quite an acceptable level.

Showing approval for appropriate behaviour and ignoring inappropriate behaviour is probably the key to effective classroom management. A mother is reported by Hamblin *et al* (4) as saying:

> when children are rewarded for doing their lessons they pay attention to what the teacher says. This makes it so that even the teacher can actively teach them something (p.40).

We would like to suggest that unless teachers are effective in applying the techniques which can change the behaviour of their pupils and unless they are taught such systematic procedures and are able to use them to get their pupils to study, then their other professional skills are likely to be wasted In short, teachers must be effective behaviour managers (cf 8)

We would also like to point out that most children who exhibit disruptive behaviour in the classroom probably do not need to be treated clinically or medically, further, the agent of behaviour change does not need to have an advanced degree to enable children to become more effective in school American experience is showing that what is required is that the relevant skills should be taught at the level of teacher training so that our teachers can go out and be effective in their classrooms, free of the frustrations of attempting to handle situations for which they are ill prepared

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