

# Specific Praise Improves On-task Behaviour and Numeracy Enjoyment: A study of year four pupils engaged in the numeracy hour

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*(Received October 2003; accepted after revision, April 2004)*

The effects of praise on student on-task behaviour, academic self-concept and numeracy enjoyment were investigated. Four year four classes and their teachers participated. Two teachers were instructed to use *specific* praise and two to use *positive* praise. Classes were independently observed on four occasions, twice before and twice after the praise intervention. Student on-task behaviour, numeracy enjoyment and academic self-concept were measured and teachers' use of praise was observed. Specific praise promoted more on-task behaviour than positive praise and significantly increased academic self-concept. Ratings of numeracy enjoyment were not significantly affected. Implications of this research for teaching practice are discussed.

## Introduction

The type and quality of feedback students receive for their academic work is a critical determinant of student performance at school. Students apply themselves more rigorously to their studies when rates of approval are high for those activities than when they are not (for example, Harrop & Swinson, 2000; Merrett & Wheldall, 1987; Nafpaktitis, Mayer & Butterworth, 1985).

Important aspects of feedback are the form and specificity of praise that students receive for their academic work. Definitions of praise in the literature vary widely, and Wheldall, Houghton, and Merrett (1989) called for "a more rigorous conception of teacher feedback to pupils" (p. 47). Canter and Canter (1992) regard praise as an example of an individual positive reinforcer, using the term *positive recognition*: defining it as sincere and meaningful attention for behaving according to expectations.

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Harrop and Swinson (2000) distinguish between *approval* and *approval with description*. Pergande and Thorkildsen (1995) distinguish between *encouragement* (labelling something a pupil has done well and encouraging them to improve) and *praise* (emphasising pupil status in relation to others). Brophy (1981) argues that praise "connotes a more intense or detailed teacher response ... than terms such as feedback or affirmation of correct response do" (p. 5). An alternative conception of praise is provided by Dweck (2000) who distinguishes between *person praise* and *process praise*. Person praise gives feedback on the "whole-person", appreciating work only as a reflection of ability (e.g., "that's clever", "good boy"), whereas process praise is more specific and focuses on the effort or strategy used, thus noticing the essence and merit of an accomplishment (e.g., "You must have tried really hard"). An earlier distinction between *task-involved* versus *ego-involved* feedback provided by Butler (1987) appears to correspond to Dweck's definitions.

To consider praise solely as a reinforcer, however, denies the variety of influences that mediate its effectiveness—a view noted elsewhere by others (for example, Dweck, 2000; Dweck & Leggett, 1988; Kamins & Dweck, 1999; Meyer, 1992; Mueller & Dweck, 1998).

### **Types and Use of Praise**

We differentiate between *positive* and *specific* praise. Positive praise refers to an expression of positive affect or approval about behaviour. This could involve affirming a correct answer or giving ability or whole-person feedback. Specific praise expresses positive affect but also contextualises behaviour. This involves precisely stating or describing the praised behaviour and possibly discussing the effort strategy or rule used by the pupil (Dweck, 2000).

There is a growing body of work that shows that praise is under-utilised in the classroom and frequently delivered at rates unlikely to affect behaviour. Thompson (1997) argued that the potential of attributional messages in teachers' praise is not being exploited to maximum effect, citing research by Blumenfeld, Hamilton, Bossert, Wessels, and Meece (1983) who found less than 1% of communications in the classroom consist of attributional feedback and that these are generally procedural, reactive and negative to children's behaviour rather than providing information to the child about why their behaviour is or is not appropriate. Brophy (1981) has argued rates of praise in an averaged sized classroom (25–30 students) are too low for praise to function effectively as a reinforcer. For an individual in a class of 25 students, if a teacher praises behaviour once every five minutes, the rate of praise would be only about once every two hours. Rutter, Maughan, Mortimore, and Ouston (1979) found only three or four instances on average of praise per pupil per lesson in classes in secondary schools.

### **Reactions to Failure**

The praise a child receives impacts how they view their intelligence and how they

approach tasks and react to failure (Kamins & Dweck, 1999; Mueller & Dweck, 1998). Praise for intelligence ("person praise") conveys that intelligence matters is judged from performance and is not easily modifiable (for example, Dweck, 2000). Praise for effort or strategy ("process praise") focuses on aspects of behaviour that are modifiable when things do not go so well, thus keeping expectations high and affect positive (for example, Dweck, 2000).

Children are more vulnerable to the effects of failure following a history of receiving person-oriented praise, such as "You're a good girl/boy", whereas effort or strategy praise, such as "You must have tried really hard", increased mastery and persistence in the face of setbacks (Kamins & Dweck, 1999; Mueller & Dweck, 1998). Clearly it is critical that reinforcement is targeted at behaviour not the child.

Brophy (1998) differentiates between *learning* and *performance* goals; pupils with learning goals (also called mastery or task involvement goals) treat tasks as an opportunity to learn; in contrast, pupils with performance (or ego-involvement) goals treat tasks as a test of their ability to perform rather than learn.

### The Role of Teachers

To ensure praise is delivered to best effect, the beliefs and behaviours of educators regarding the use of praise need to be understood. A sizeable proportion of parents believe it is necessary to praise children's ability when they perform well to make them feel smart (Dweck, 2000). It would be troubling if teachers believed this too, as children may come to believe their level of performance is fixed.

A number of studies have investigated teacher approval and disapproval. White (1975) found teachers were more disapproving than approving; however, since the mid-1980s reports have shown teachers are using more approval than disapproval overall (for example, Merrett & Wheldall, 1986, 1987; Nafpaktitis *et al.*, 1985; Wheldall, Houghton, & Merrett, 1989), perhaps indicating the influence of advances in teacher training and/or teachers' increased awareness of literature on teachers' use of praise. In one of the few studies to define the type of praise investigated, Wyatt and Hawkins (1987) found "approval with description" was twice as frequent as "approval without description". They also found teachers were more likely to deliver approving rather than disapproving remarks and that approval rates decreased as the children's ages increased. Beaman and Wheldall (2000) argued that the increased levels of approval offered by teachers resulted from changes in operational definitions, for example including non-verbal approval and disapproval, rather than some gross change in teacher behaviour. The general finding is that teachers respond more positively to academic behaviours than appropriate social behaviours and respond more frequently to inappropriate than to appropriate social behaviours (for example, Harrop & Swinson, 2000; Swinson & Harrop, 2001; Wyatt & Hawkins, 1987).

Various studies have shown levels of on-task behaviour increase when teachers increase general rates of praise delivery (for example, Bain, Houghton, & Williams, 1991; Ferguson & Houghton, 1992; Houghton, Wheldall, Jukes, & Sharpe, 1990;

Pergande & Thorkildsen, 1995; Sutherland, Wehby, & Copeland, 2000). Where on-task behaviour is defined as getting on with work set by the teacher and/or following his/her instructions, it is usually operationalised as the percentage of time the class spends on task (for example, Merrett & Wheldall, 1986). Beaman and Wheldall (2000) reported teacher's use of praise increased when they received training in the effective use of praise and reprimands via applications such as the Behavioural Approach to Teaching Package (BATPACK), and Positive Teaching Packages (for example, Wheldall & Merrett, 1984, 1985) where teachers are trained in behavioural applications of classroom management including positive reinforcement.

### Secondary Benefits of Praise

The use of specific praise has implications for a pupil's *self-regulated learning* (SRL), a construct that emphasises autonomy and control by the individual, who monitors, directs and regulates actions towards goals of information acquisition, expanding expertise, and self-improvement (Rohrkemper & Corno, 1988). Pupils who take notes and allocate resources well typically display high levels of SRL. In contrast, a lack of SRL is seen in pupils who daydream, forget homework and rarely finish work (Paris & Paris, 2001). SRL is developed in classrooms by providing timely, informative and encouraging private feedback rather than public comparison of performance (Brophy, 1998) and through encouraging pupil to reflect on learning (Paris & Paris, 2001). Specific praise could increase a learner's knowledge of the learning strategies and effort required for success, thus increasing SRL.

### Aims and Hypotheses

This study attempts to fill gaps in the literature by specifically manipulating the type of praise used by teachers (with two teachers focusing on "positive praise" and two on "specific praise") and measuring the effects on pupils' academic self-concept, ratings of numeracy enjoyment, and levels of on-task behaviour in the "Numeracy Hour" for eight and nine year olds in Key Stage Two. *The National Numeracy Strategy* (DfEE, 1999) was introduced in schools in 1999 to help raise standards in schools. It advocates the teaching of numeracy daily for 45 minutes to one hour. The numeracy lesson is separated into three parts: oral and mental starter, main teaching activity, and plenary.

It is hypothesised that praise instruction will increase levels of on-task behaviour and that increase is expected to be larger for specific praise, because of its information content, than when positive praise is delivered. We also predict praise instruction will increase enjoyment of numeracy lessons and that increase will be greater when pupils receive specific praise. Finally, it is hypothesised that academic self-concept will improve when specific praise is given, as its informative component is expected to affect pupils' SRL.

Table 1. Identifying characteristics of the two schools

School	Type	Number on roll	% SEN	Free school meals (%)	Class numbers
School A	Junior	357	22.7	1.9	32 + 27
School B	Primary	271	15.1	1.1	25 + 25

Notes: % SEN, percentage of children with special educational needs.

## Method

### *Participants*

Participants were 109 year four pupils aged between eight and nine years (mean age=8.7 years; 62 males and 47 females) and four class teachers (one male and three female) from two schools. The schools were closely matched according to demographic information such as age, geographical area, size, the percentage of free school meals and special educational needs (see Table 1).

### *Materials*

*Assessment of on-task behaviour.* On-task behaviour was recorded four times; at an initial observation (see design), at baseline and twice in the final stage using the Observing Pupils and Teachers in Classrooms (OPTIC), which is an observation schedule composed of two sections, each taking 15 minutes to complete. The OPTIC is used when the class is engaged in classroom activity either as a whole, in groups, or individually (Merrett & Wheldall, 1986). Section A addresses the teacher's positive and negative responses to pupils, and was used to measure the amount of praise delivered by the teacher before and after the praise intervention. Section B allows estimation of pupil's on-task behaviour. In the present study, the sections were used separately during the main teaching activity.

*Assessment of academic self-concept.* Pupils completed the "Myself-As-Learner" Scale (MALS), a 20-item scale composed of simple self-referring statements to which pupils respond in a positive, negative or neutral manner, at baseline and at the final observation. The MALS measures pupil's perceptions of themselves as learners and problem-solvers. It was constructed and standardised within British schools (see Burden, 1998).

*Assessment of numeracy enjoyment.* Pupils rated their enjoyment of numeracy lessons—on a single-item rating scale that ranged from (1) "I don't like them", to (5) "They're ok", to (10) "I really like them"—at baseline and at the final observation.

Table 2. Summary of praise types from Harrop and Swinson (2000)

Praise type	Definition
Individual	Any response given to a single pupil following the pupil's behaviour
Group	Response given to more than one pupil following their behaviour (e.g., "That's good Chris and Alex, you are sitting still")
Academic behaviour	Normal curriculum behaviours: reading writing, listening, answering questions (i.e., performing prescribed activities)
Social behaviour	<i>Behaviours indicative of classroom manners, following classroom rules and routines, such as settling down to work, remaining seated when appropriate or putting their hand up to answer a question</i>
Redirection	Response following disapproval, which describes an approved behaviour, such as "Don't do that, I want you to work in silence", "No it isn't a simple addition; look more carefully at the wording of the question"

### *Design and Procedure*

An initial observation of on-task behaviour suggested that levels of on-task behaviour would not be affected by a ceiling effect, and these were 73%, 66%, 76% and 74% for the classes taught by teachers 1, 2, 3, and 4, respectively. Each class served as its own control as baseline measures were taken before the intervention.

Teachers received a 45-minute briefing after baseline observations, consisting of clear examples and a definition of positive or specific praise, reproduced from Harrop and Swinson (2000; see Table 2), and these were linked to numeracy depending on which condition a teacher was assigned to and a summary of previous research findings. In the specific-praise condition, teachers were instructed to link praise statements to pupils (individuals and groups), and for social and academic behaviours, to a rule, strategy or effort put in by the pupil, thus making praise more informational and specific. In the positive-praise condition, teachers were instructed to praise individuals and groups for social and academic behaviours but were given no instruction on the content of this praise. Teachers completed tally sheets at the end of each numeracy lesson that indicated types of praise used and a rating of on-task behaviour. Teachers in this study were explicitly asked to direct praise at groups as well as individuals because teachers have previously been shown to direct praise to individuals rather than groups and consequently missed opportunities to praise (Harrop & Swinson, 2000). Teachers were encouraged to focus on both social and academic behaviours as it has been found that appropriate social behaviours are not approved as often as academic behaviours (see Beaman & Wheldall, 2000).

Teacher's academic and social responses to pupils were measured using the OPTIC before and after the intervention, as a manipulation check, to assess the possibility that teachers might not always deliver praise in the manner they had been instructed to and/or might misreport the amount or type of praise they delivered. This check confirmed that teachers had increased their levels and type of praise as instructed. The number of lessons taught by teachers ranged from four to six.

The researcher undertook the administration of the questionnaires and explained the rating scales to the pupils. To attenuate problems with reading ability each question was read out in turn to the whole class and pupils were told to circle the answer they agreed with. Pupils were asked to be honest and to remember that no one else in the class would know what they wrote as their answers.

Classes were observed in the second half of the numeracy hour as it offered possibilities for the teacher to move around the classroom, to praise the whole class and to use a wider range of praise than in the first half of the lesson, which was largely a "chalk and talk" didactic session to the whole class. The length of these sessions varied from 15 to 20 minutes.

All classes were observed in morning sessions. For each class two teaching sessions were observed before the praise intervention, the first an initial assessment of suitability and then a baseline observation. Three teaching sessions were observed after the praise intervention (two observations of student behaviour and one of teacher behaviour). The researcher sat, with a stopwatch and the recording sheets, in a position in the classroom where they could see the whole class. The researcher did not interact with the teacher or pupils during the observation.

To administer the OPTIC, the coder divided the class into three convenient and approximately equal groups, and paid attention to each in turn for one minute, looking at each pupil in turn for four seconds, to decide whether the pupil was on-task. Merrett and Wheldall (1986) define on-task behaviour as getting on with work set by the teacher and/or following his/her instructions.

*Inter-rater reliability.* Classes were split into three groups, with the researcher and observer observing each group in the same order starting with the same pupil at the same time so the observations matched each other. A second observer observed four of the eight initial observations and four of the final observations of on-task behaviour. Percentage agreement and values of Cohen's Kappa, correcting for chance agreement, were computed (97.87% and 0.97, respectively).

## Results

### *On-task Behaviour*

Ratings of on-task behaviour increased for all classes in both conditions from the initial to the baseline observation. After the input session, levels of on-task behaviour increased across both observation periods for the specific-praise condition and continued to increase but appeared to reach a plateau by the second observation for the positive-praise condition (see Figure 1).

A repeated-measures analysis of variance, performed on baseline and final observation ratings of on-task behaviour, revealed a significant main effect of on-task behaviour ( $F(1, 2)=9.09, P < 0.05$ ) but no significant interaction between conditions ( $F(1, 2)=0.64, P > 0.05$ ). Tests of between-participant effects revealed a

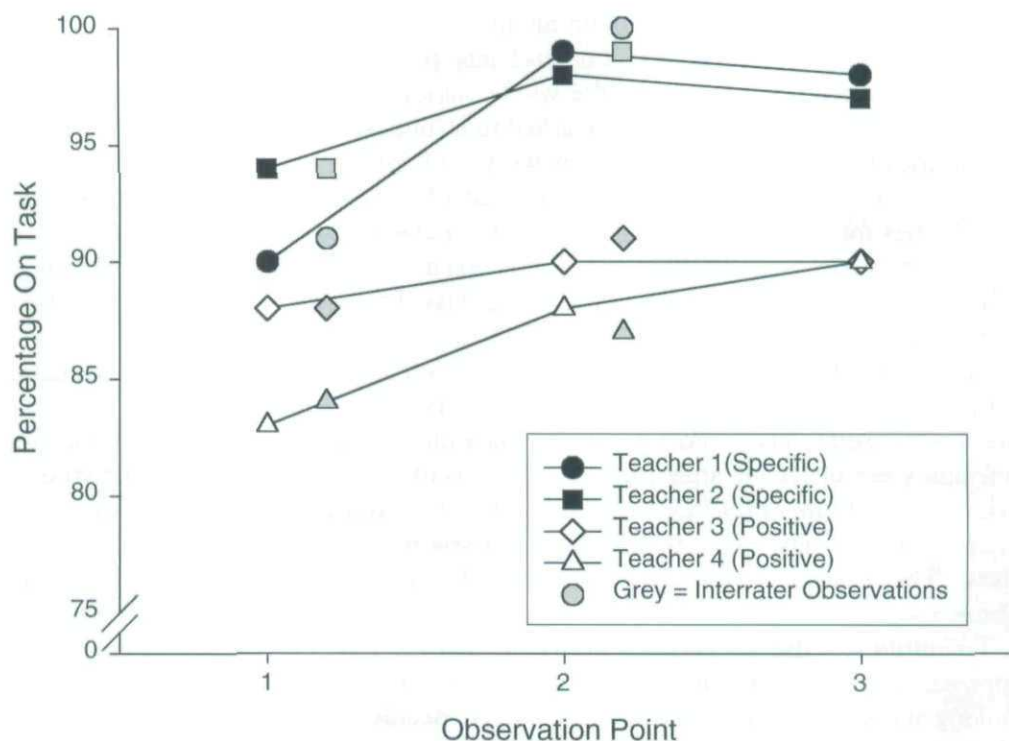


Figure 1. Percentage of on-task behaviour at baseline (point 1) and at final observation (points 2 and 3) for specific and positive praise conditions. The data points coloured grey are for the ratings of on-task behaviour by the inter-raters

significant difference in on-task behaviour between conditions ( $F(1, 2)=41.68$ ,  $P < 0.05$ ), such that increases in levels of on-task behaviour were only significant for the specific-praise condition.

Inter-rater observations were reliable and comparable with ratings of levels of on-task behaviour noted by the researcher (see Figure 1). Inter-rater ratings for baseline and the final observation were 91% and 100% for class one, 94% and 99% for class two, 88% and 91% for class three, and 84% and 87% for class four.

#### *Academic Self-concept (MALS)*

Levels of academic self-concept, measured by the MALS (Burden, 1999), at baseline, were similar for the two conditions; however, the mean MALS score increased by almost three points for the specific-praise condition and decreased by more than one point for the positive-praise condition by the end of the study (see Table 3).

The differences in academic self-concept between the praise conditions were not significant at baseline ( $t(107)=0.28$ ,  $P > 0.05$ ), but the differences were significant at



Table 3. Means and standard deviations of MALS scores for both praise conditions

Condition	MALS score	
	MALS1	MALS2
Specific		
Mean	72.20	75.10
Standard deviation	14.71	13.55
Positive		
Mean	71.44	70.68
Standard deviation	13.93	12.72

Notes: MALS scores can range from 20 to 100.

Table 4. Means and standard deviations of numeracy ratings for both praise conditions

Condition	Numeracy rating	
	Baseline	Final
Specific		
Mean	7.203	7.271
Standard deviation	2.545	2.957
Positive		
Mean	6.68	6.64
Standard deviation	2.428	3.022

Notes: Possible range of numeracy rating is 1-10.

the final test point ( $t(107)=0.87$ ,  $P < 0.05$ ). Academic self-concept scores therefore, increased significantly for pupils in the specific-praise but not the positive-praise condition.

A repeated-measures analysis of variance showed there was no significant main effect of praise condition on MALS scores between baseline and the final observation ( $F(1, 107)=1.59$ ,  $P < 0.05$ ); however, the interaction was significant ( $F(1, 107)=4.66$ ,  $P > 0.05$ ).  $t$ -tests confirmed significant differences in MALS scores from MALS 1 to MALS 2 for the specific-praise condition ( $t(107)=2.38$ ,  $P < 0.05$ ), and that the difference in MALS scores for the positive-praise condition was not significant ( $t(107)=0.67$ ,  $P > 0.05$ ).

*Numeracy enjoyment.* Although mean ratings of numeracy enjoyment were slightly higher for classes that received specific praise than for classes that received positive praise, the difference was not significant ( $F(1, 107)=0.006$ ,  $P > 0.05$ ). Pupils in the specific-praise condition with teacher one had slightly higher ratings of numeracy at both measures than pupils in the same condition with teacher two, probably because these classes were streamed for ability and more able students may have enjoyed numeracy lessons more. Table 4 summarises the descriptive statistics for the numeracy ratings in each condition at baseline and at final observation.

*Teacher's Use of Praise*

Incidences of teacher approval and disapproval were recorded on the teacher-data observation sheet that corresponds to Section B of the OPTIC schedule (Merrett & Wheldall, 1986). Table 5 summarises the data of teacher behaviours taken at baseline and at final observation.

*Positive praise.* At baseline the overall approval rates over a session of 15–20 minutes were roughly equal for the three female teachers (18, 21 and 20), whereas the male teacher had doubled his rate of approval (42). Approval rates for academic behaviours followed a similar pattern but all teachers had low rates of approval to social behaviours (two to four over 20 minutes). At the end of the study the overall approval rates of all teachers increased. This was mainly for academic behaviours but small increases in social approval were also observed.

*Specific praise.* At baseline approximately one-third of teacher's approval to academic behaviour was specific. Approximately one-half of the approval to social behaviours was specific. At the end of the study the two sets of teachers differed in the amount of specific responses (related to a rule; e.g., describing what was done) they gave. Approximately one-half of the academic praise was specific in the specific-praise condition compared with less than one-quarter of responses in the positive-praise condition. Again for social approval in the specific-praise condition, all approval to social behaviour was specific. This was not the case for the positive-praise condition.

*Description of teacher disapproval.* Although disapproval rates were not a focus of this study, some interesting changes were observed (see Table 6). At baseline, disapproval rates were similar for all teachers, except for the male teacher in the specific-praise condition, who had much lower rates of disapproval (possibly linked to his higher rate of approval). At baseline the rates of disapproval to social and academic behaviours were not greatly different between teachers. At the end of the study, however, disapproval rates in the specific-praise condition were much lower than in the positive-praise condition and all academic responses included descriptions of the behaviour being disapproved of—indicating an increase in specificity here that is perhaps linked to their increased use of specific-praise. Disapproval to social behaviour remained roughly the same for both conditions.

*Teacher's records of praise.* Averages of the teachers' tally records of their own praise and ratings of on-task behaviour in lessons taught after the input session are presented in Table 7. Teachers in the specific-praise condition had higher levels of approval to groups for academic behaviour, and teacher two in particular had high approval rates to individuals, particularly for social behaviour compared with the

Table 5. Summary of teacher behaviour at baseline and final observation for each condition

Teacher number, sex	Condition	Total approval		Academic approval		Social approval		Described academic		Described social	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
1, male	Specific	42	50	40	44	2	6	15	24	1	6
2, female	Specific	18	33	16	30	2	3	5	12	2	3
3, female	Positive	21	30	17	25	4	5	5	4	1	3
4, female	Positive	20	32	18	27	2	5	8	6	1	2

Notes: described approval responses are those related to a rule, an example or that describes what was done (i.e., specific praise).

Table 6. Amount and type of disapproval given by teachers at baseline and final observation

Teacher number, sex	Condition	Total disapproval		Academic disapproval		Social disapproval		Described academic		Described social	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
1, male	Specific	3	4	1	2	2	2	1	2	1	2
2, female	Specific	14	7	9	5	5	2	7	5	3	2
3, female	Positive	8	11	4	4	4	6	3	3	3	6
4, female	Positive	8	11	6	5	2	6	3	3	3	2

Notes: described disapproval responses are those related to a rule, an example or express what was done (i.e., are specific).

Table 7. Averages of the teachers' tally records of their own praise and ratings of on-task behaviour in lessons taught after the input session

Teacher	Condition	Number of lessons taught	Average on-task rating	Total approval	Individual academic approval	Individual social approval	Group academic approval	Group social approval
1	Specific	6	8	19.2	2.8	5.7	6.2	4
2	Specific	4	8	46.3	11.8	24.3	5.8	3.3
3	Positive	5	7.9	24.2	5.4	12.2	4.2	2.4
4	Positive	6	7.8	16	3	8	3.2	3.7

teachers in the positive-praise condition. It is worth mentioning that all praise delivered by teachers in the specific-praise condition was recorded according to whether the praise was delivered according to a rule, strategy or effort, whereas teachers in the positive-praise condition only had to indicate the type of praise (social or academic) and to whom it was directed (individual or group).

*Debriefing of teachers.* Teachers took part in a semi-structured interview after the study that constituted part of their debriefing. All teachers reported that they felt their behaviour changed as a result of the study, it was easier to praise individuals than groups, and that the tally sheet made them more aware of the praise they gave—focussing attention on “who” and “what” they were praising. They also all reported being more aware of the praise they were using in other lessons too; however, they reported they had trouble completing it during the lesson. No teachers believed they or their pupils had been affected by the presence of the observers.

Teachers in the specific-praise condition reported that praising academic effort, rule or strategy was initially easier than praising social behaviour. They also reported that pupils were more settled when doing group work, and seemed more willing to attempt difficult tasks and re-use strategies as they had information regarding their usefulness. Teachers in the positive-praise condition focused more on how often they praised and felt pupils stayed on task for longer and seemed happier.

## Discussion

Increases in levels of on-task behaviour were significantly greater in the specific-praise condition than the positive-praise condition. Specific praise also significantly increased children's perceptions of themselves as academic learners, namely their academic self-concept as measured by the MALS (Burden, 1999), which positive praise did not. Positive praise did increase on-task behaviour as other studies have found (for example, Harrop & Swinson, 2000; Merrett & Wheldall, 1987; Nafpaktitis

*et al.*, 1985). The prediction that the praise interventions would increase enjoyment of numeracy lessons was not supported. Mean ratings of numeracy enjoyment did not vary systematically. This might reflect a ceiling effect on enjoyment or a lack of sensitivity of our single-item measure to detect any difference.

### *Design Issues*

This study, by necessity, was conducted on a small scale and used only two schools, four teachers and one age group. The limited sample could affect the generalisability of these results. Repeating the study on a larger scale, therefore, would help to confirm the reliability of our findings.

The time of year could have affected levels of on-task behaviour, which increased from the initial observation to the baseline observations. Initial observations were taken at the start of the summer term and baseline observations were taken one to two weeks later, when pupils were more settled into the school environment than they were after their Easter break. This perhaps explains the increase in on-task behaviour between these two time points. However, there were further increases in levels of on-task behaviour following the praise intervention, and the magnitude of that increase was differentially affected by the type of praise that teachers used. Observation three took place later on in the term and the final observation took place just before or just after the half-term break. Levels of on-task behaviour remained high despite the proximity of a holiday, perhaps indicating that the intervention produced a sustained and powerful effect on on-task behaviour.

### *Teacher Behaviour and Classroom Atmosphere*

Brophy (1981) has argued that it is difficult for teachers to concentrate on specific behaviours of the whole class; however, teachers in this study were able to do this—certainly those in the specific-praise condition, who on observation were able to praise children for the effort or strategy they had used, for both social or academic behaviour, perhaps being helped by the information on their tally sheet. Also, positioning of children in groups probably made targeting praise at groups and individuals easier.

Teachers in both praise conditions reported more positive classroom atmospheres. Teachers in the specific-praise condition also reported that pupils settled down to work quicker, using praised strategies and were more open to challenge. While specific praise engendered a positive atmosphere in the classroom, these effects are secondary to the primary effects on children's learning skills, responses to failure and on-task behaviour as evidenced in the present study.

Elsewhere, Burnett (2002) found that ability feedback was related to perceptions of environment whereas effort feedback, which corresponds to the definition of specific praise in this study, impacted directly on relationships with teachers and indirectly on environmental perceptions. Burnett (2002) suggests teachers should use effort rather than ability feedback to strengthen relationships with students.

Adults can help children learn tactics to regulate their own behaviour and learning.

Paris and Paris (2001) suggested that children construct theories of the world, which adults and peers shape through guidance and scaffolding. Specific praise could have a role in developing these learning tactics. This suggestion is supported by the increase in the MALS scores for the specific-praise condition along with the fact that teachers in this condition reported that children used praised strategies more and were settled to work.

### **Future Research and Implications**

Earlier studies have measured the rate of praise in classrooms (for example, Merrett & Wheldall, 1987; Nafpaktitis *et al.*, 1985) but only a few (for example, Harrop & Swinson, 2000; Wyatt & Hawkins, 1987) have focused on the type of praise, which this study suggests is more important than the rate of praise. Future research might explore naturalistic measures of the quality of praise used by teachers, and focus on the quality not quantity of praise statements. Future research might also address whether praise for effort strategy or process is always beneficial or whether it could lead to greater disappointment if it is over-emphasised or if hard work fails to get results.

The improvements in academic self-concept, for children in the specific-praise group, were encouraging and suggest global changes in the learning style of the children; namely, in their self-regulated learning. The focus of specific praise on effort or strategy also suggests pupils are more aware of what makes them successful at a task, such as what strategies to try and the amount of effort required. Rohrkemper and Corno (1988) argue that when pupils are aware of learning strategies they need less instruction. It seems possible that if teachers focus on increasing pupils' awareness of effort and academic strategies through specific, informational praise that focuses on learner skills such as planning, working carefully and accurately, and checking, then this increased awareness will lead to increased self-efficacy and self-regulation of learning. Increases in academic self-efficacy might ultimately reduce demands on teachers' time while also producing students with transferable skills; that is, the knowledge that they can succeed by applying effort and strategies rather than being innately "good" at something.

The use of specific praise clearly has implications for how pupils cope with failure. Specific praise that elaborates the reasons for successful performance of an academic task may help pupils cope more positively with failure. Praise that focuses on the individual rather than the process will engender different types of responses to failure, either engendering a helpless or mastery response (Dweck, 2000; Kamins & Dweck, 1999; Mueller & Dweck, 1998).

#### *Implications for Teachers and Educational Psychologists*

The relationship between praise and on-task behaviour has positive implications for educational practice. A common piece of advice given to teachers is to accentuate the positive and, with praise often recommended as a behaviour management tool by

educational psychologists (for example, Smith, 1998), it is clearly important that the meaning and nature of praise is made explicit when these recommendations are given, otherwise the effectiveness of praise could be diminished. Psychologists, other education professionals and the policy-makers need to keep up-to-date with research into praise and also perhaps take the lead in developing research in this area. There is a clear role for educational psychologists to work at the whole-school systems level, helping teachers implement specific praise across the whole curriculum. There is limited research on effects of whole-school interventions and generalisability, and maintenance of effects of training teachers to use praise is not positive (for example, Bain *et al.*, 1991).

Teachers in this present study, particularly in the specific-praise condition, recognised and were enthusiastic about changes in their own and their classes' behaviour, which has positive implications for the long-term maintenance of effects. It is clear that continued monitoring is needed to maintain these effects, and perhaps teachers on a programme together could fulfil this role for each other, perhaps as a form of peer monitoring. The educational psychologist could also have a role here.

## Conclusions

Praise is effective when it is personal, genuine, contingent and descriptive (mentioning desired behaviour), and provides specific information so the pupil understands why they are being praised, and when it is directed at a person's effort, strategy or rule not expressed as an evaluation of the individual (for example, Dweck, 2000).

Praise does not control behaviour when it is unrelated to the task (i.e., not contingent), does not describe the behaviour or does not provide specific information about its importance for learning. Praise directed as an evaluation of the person and/or delivered in an unpopular and artificial manner is also ineffective at controlling or directing behaviour (for example, Brophy, 1981; Dweck, 2000).

An adult's praise can convey powerful messages to children, and it is important that teachers use it to its full advantage to promote the learning and attainment of pupils in their classes. When praise is specific it carries with it more information than a purely positive remark, and thus affords pupils more control of their learning. We argue that specific praise is more effective at promoting the behaviour it reinforces because it makes the contingency between behaviour and praise more explicit.

The present study advocates the use of specific praise focused on children's effort and strategies, and we have found that short training sessions for teachers in the use of specific praise produce significant increases in on-task behaviour and academic self-concept of pupils.

## References

- Bain, A., Houghton, S., & Williams, S. (1991). The effects of a school-wide behaviour management programme on teachers' use of encouragement in the classroom. *Educational Studies*, 17, 249-260.

- Beaman, R., & Wheldall, K. (2000). Teachers' use of approval and disapproval in the classroom. *Educational Psychology, 20*, 431-446.
- Blumenfeld, P. C., Hamilton, V. L., Bossert, S. T., Wessels, K., & Meece, J. (1983). Teacher talk and student thought: Socialisation into the student role. In J. M. Levine & M. C. Wang (Eds.), *Teacher and student perceptions: Implications for student learning*. Hillsdale, NJ: Lawrence Erlbaum.
- Brophy, J. (1981). Teacher praise: A functional analysis. *Review of Educational Research, 51*, 5-32.
- Brophy, J. (1998). *Motivating students to learn*. Boston, MA: McGraw-Hill.
- Burden, R. L. (1998). Assessing children's perceptions of themselves as learners and problem solvers. *School Psychology International, 19*, 291-305.
- Burden, R. (1999). Children's self-perceptions. In N. Frederickson & R. J. (Seán) Cameron (Eds.), *Psychology in Education Portfolio*. Windsor: NFER-Nelson.
- Burnett, P. (2002). Teacher praise and feedback and students' perceptions of the classroom environment. *Educational Psychology, 22*, 5-16.
- Butler, R. (1987). Task-involving and ego-involving properties of evaluation: Effects of different feedback conditions on motivational perceptions, interest and performance. *Journal of Educational Psychology, 79*, 474-482.
- Canter, L., & Canter, M. (1992). *Assertive discipline: Positive behaviour management for today's classroom*. Santa Monica, CA: Lee Canter & Associates.
- DfEE (1999). *The National Numeracy Strategy*. Cambridge: Cambridge University Press.
- Dweck, C. S. (2000). *Self-Theories: Their role in motivation, personality and development*. Hove: Psychology Press.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95*, 256-273.
- Ferguson, E., & Houghton, S. (1992). The effects of contingent teacher praise, as specified by Canter's assertive discipline programme, on children's on-task behaviour. *Educational Studies, 18*, 83-93.
- Harrop, A., & Swinson, J. (2000). Natural rates of approval and disapproval in British infant, junior and secondary classrooms. *British Journal of Educational Psychology, 70*, 473-483.
- Houghton, S., Wheldall, K., Jukes, R., & Sharpe, A. (1990). The effects of limited private reprimands and increased private praise on classroom behaviour in four British secondary school classes. *British Journal of Educational Psychology, 60*, 255-265.
- Kamins, M. L., & Dweck, C. S. (1999). Person versus process praise and criticism: Implications for contingent self-worth and coping. *Developmental Psychology, 35*, 835-847.
- Merrett, F., & Wheldall, K. (1986). Observing pupils and teachers in classrooms (OPTIC): A behavioural observation schedule for use in schools. *Educational Psychology, 6*, 57-70.
- Merrett, F., & Wheldall, K. (1987). Natural rates of teacher approval and disapproval in British primary and middle school classrooms. *British Journal of Educational Psychology, 57*, 95-103.
- Meyer, W. (1992). Paradoxical effects of praise and criticism on perceived ability. In W. Stroebe & M. Hewstone (Eds.), *European Review of Social Psychology* (pp. 259-283). London: John Wiley & Sons.
- Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality and Social Psychology, 75*, 33-52.
- Nafpaktitis, M., Mayer, G. R., & Butterworth, T. (1985). Natural rates of teacher approval and disapproval and their relation to student behaviour in intermediate school classrooms. *Journal of Educational Psychology, 77*, 362-367.
- Paris, S. G., & Paris, A. H. (2001). Classroom applications of research on self-regulated learning. *Educational Psychologist, 36*, 89-101.
- Pergande, K., & Thorkildsen, T. A. (1995). From teachers as experimental researchers to teaching as moral inquiry. In J. G. Nicholls & T. A. Thorkildsen (Eds.), *Reasons for learning. Expanding the conversation on student-teacher collaboration* (pp. 21-35). New York: Teachers College Press.



- Rohrkemper, M., & Corno, L. (1988). Success and failure on classroom tasks: Adaptive learning and classroom teaching. *The Elementary School Journal*, 88, 297-312.
- Rutter, M., Maughan, B., Mortimore, P., & Ouston, J. (1979). *Fifteen Thousand hours: Secondary schools and their effects on children*. London: Open Books.
- Smith, I. (1998). *Is praise always a good thing? Reflecting on praise, encouragement and appreciation*. Dundee: Scottish Consultative Council on the Curriculum.
- Sutherland, K. S., Wehby, J. H., & Copeland, S. R. (2000). Effects of varying rates of behavior-specific praise on the on-task behaviour of students with EBD. *Journal of Emotional and Behavioral Disorders*, 8, 2-8.
- Swinson, J., & Harrop, A. (2001). The differential effects of teacher approval and disapproval in junior and infant classrooms. *Educational Psychology in Practice*, 17, 157-167.
- Thompson, T. (1997). Do we need to train teachers how to administer praise? Self-worth theory says we do. *Learning and Instruction*, 7, 49-63.
- Wheldall, K., & Merrett, F. (1984). *Positive teaching: The behavioural approach*. London: Paul Chapman.
- Wheldall, K., & Merrett, F. (1985). The Behavioural Approach to Teaching Package (BATPACK): Evolution and evaluation. *Behaviour Change*, 2, 21-32.
- Wheldall, K., Houghton, S., & Merrett, F. (1989). Natural rates of teacher approval and disapproval in British secondary school classrooms. *British Journal of Educational Psychology*, 59, 38-48.
- White, M. A. (1975). Natural rates of teacher approval and disapproval in the classroom. *Journal of Applied Behaviour Analysis*, 8, 367-372.
- Wyatt, W. J., & Hawkins, R. P. (1987). Rates of teachers' verbal approval and disapproval. *Behaviour Modification*, 11, 27-51.

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