Sutton Coldfield College

**Action Research Proposal**

Effective Reinforcement for Motivation

# Summary

‘Reinforcement’ means praise, rewards, certification or other ‘official’ recognition of learning, and other positive feedback. For example giving students feedback on whether they have learned effectively is reinforcement. This is sometimes called ‘knowledge of results’. So a reasonable mark in a quiz or test is reinforcement, so is ticking off a task or competence.

In research reviews of teaching strategies ‘reinforcement’ invariably comes out at the very top of the list as the single most effective teaching strategy. You do not have a more powerful tool at your disposal. But it’s not easy to get it right!

This Proposal tells you about what research has to say about the most effective ways of praising and rewarding, and allows you to develop your skills in this direction with a colleague or team.

You can combine this Action Research Proposal with another called ‘Assessment Proformas’ to make a powerful combination.

Action Research Project

Proposal

Generic Skills

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# Effective Reinforcement Motivation

**for**

# Why Praise?

Research shows that reinforcement (e.g. praise and other rewards) is the teacher’s single most powerful tool. Reinforcement substantially improves the following, and is usually the single most effective way of improving it:

* learning and attainment
* motivation
* behaviour
* concentration in class
* self-belief or self-efficacy. That is the student’s belief in their own ability to improve, develop, and to overcome their own difficulties
* self-esteem
* Attitudes to learning and to your subject
* Attitudes to the teacher

Notice there are substantial gains for the teacher as well as the student!

# How to praise and reward for maximum effect

# There have been many hundreds of research studies on ‘reinforcement’. The messages from this research show a high level of agreement, but their messages are not easy to implement! It will take time, thought, and practice to become a good practitioner in this respect.

# *The most effective reinforcement should be:*

**Frequent**!

Try and give every student at least some reinforcement every lesson. Put students who are a pain or whose progress is slow into ‘intensive care’ --- not by beating them up! This is *teacher’s* intensive care, and means recognising their effort and achievement at least four times an hour, smiling, talking with them in a friendly manner etc ---- do this for a month, however difficult you find this (and you will find it difficult!) and see the results.

Perhaps you doubt whether you can find enough praiseworthy work to give as many ‘medals’ as I am suggesting? Don’t be afraid to praise ordinary things. If a student satisfactorily does what you asked her to do, it may not be cause for fanfares, flags and rejoicing; but it is cause for praise. There is a lot to be said for a simple recognition of everyday effort. ‘You’ve finished the worksheet– well done.’ If you reserve praise for conspicuous merit some students will never get any, and they will soon be tail-spinning into the vicious circle I described earlier.

# Task centred not ego centred

Praise should be earned by, and focussed on the student’s work, not on the student. It should be earned for effort, completion of a task, achievement, the skill shown, an appropriate strategy used etc.

It should not be for just being there, or for just listening say, unless these are achievements in themselves for that student.

Praise should not be ego centred e.g. ‘You are very good at this’ ‘You are a very able student’ ‘I’m proud of you’. This is because ego centred praise:

* assumes that success is due to personal attributes
* teaches students to interpret difficulties in terms of lack of these abilities.

# Student referenced

Praise should be given for what is a reasonable achievement *for that student*, not for that class, or that age group, etc. It should not be based on a comparison with other students such as what is a good standard for the group, this is because such a praising strategy would mean that weak students would never get praise. This would deny your most potent motivator to the very students who need it most.

If the completion of an ordinary learning task earns praise, every student can get it.

**Specific**

You should specify what the praise is for and indicate the value of the accomplishment. This is easier to do if it is focussed on the task as described above. Saying what the praise is for has another benefit of ensuring that the praise is not seen as ‘patronising’:

“Well done, that’s a good way of solving the problem” OR JUST:

“That’s a good way of solving that problem.”

“Good, all the commas are in exactly the right place”

“You are really concentrating well now”

“That is really excellent Peter. The presentation of the data is crystal clear.”

# Sincere

You should sound spontaneous, and as if you really mean it! (Even if you hate the wretch) It should not sound like a ‘reflex action’ or a habitual phrase just trotted out for no particular reason.

It should not sound to the student as if you are using praise just as a means to control them.

Not easy is it?!

##### Reinforcement strategies for tough teachers

Some teachers find it hard to say nice things to their students! They should work on this of course. However, knowledge of results is reinforcement. That is, simply telling students the facts about what they have done well, or giving them the results of a test, as long as the student perceives this feedback as reasonably positive.

So you could use a quiz or short test to show students what they know and can do. Do this regularly for maximum effect and give warning of it. A three minute test at the end of every lesson is an excellent review technique. You will sometimes see students punching the air in delight if they do reasonably well. Reinforcement does have a very positive effect remember.

Of course if they do badly this may not motivate. So consider using tests and quizzes ‘formatively’. That is, give students a second chance to get right those questions they got wrong, perhaps the next day. Tell them about this of course, so they can bone up on their weaknesses. Give them the test again, but tell them just to do the questions they got wrong. Then nearly everyone does well.

Discourage students from comparing marks, its getting a “good-enough” mark that counts and fixing the learning that made them get one wrong. Consider setting easy questions on key material, setting a pass mark of say, 8/10, and then recording students just as ‘passed’ or ‘not passed yet’. This is mastery learning, and it is one of the most powerful teaching methods known. For a full account of this remarkably easy and effective strategy (which is an example of ‘formative teaching’) see the Action Research Proposal called Tests and Quizzes to Find Faults and Fix. E-mail me, I will send one on request. Mastery Learning is explained in full in ‘Teaching Today’.

# Competences and self assessment as reinforcement.

Any acknowledgement of learning success is reinforcement. You could set students a set of informal competences and ask them to tick themselves off as they achieve these, or ask them to self-assess against clear criteria. Almost any learning can be ‘packaged’ in the competency or criteria format. It is even possible to have criteria for behaviour, and ask students to self assess or claim competence from you for this. Let your imagination off the leash and you will find a way to make it work for you!

# Certification for reinforcement

Some programme managers give students Open College Network (OCN) certificates in say first aid or customer care very early on in their programme. If students have had official success by the end of their first term or soon after this can be a great motivator.

## Action Research Activity

Get together in a team of teachers, or pair up with someone for the purpose.

1. Decide whether you are considering *verbal* reinforcement, or *written* reinforcement which includes feedback on student’s written or practical work. You can of course consider both, if so it might help to do one at a time.

1. Compare your methods of reinforcing and praising:
   1. **Verbal Praise and reinforcement:**
      1. When do you praise or reinforce?
      2. What is your ‘praise rate’, that is, the number of times you praise or reinforce per hour? (You could observe each other to determine this)
      3. Who do you praise or reinforce?
      4. Is praise or reinforcement spread over all the students in the group, regardless of their ability, behaviour, etc?
      5. How do you praise?
   2. **Written praise and constructive criticism** (feedback on written or practical work)
      1. When do you do this? Does all their work get a written or verbal comment? Consider whether it is desirable for all early practice work to get your comments. Also whether verbal feedback might be better.
      2. Does pretty much every piece of feedback contain some praise or reinforcement?
      3. Is praise and reinforcement frequent, task-centred not ego-centred; student referenced; specific; and sincere?! You are doing damn well if it is!
      4. Is your feedback **medal and mission**? That is, containing a medal for what was done well, and a mission for how to get better. (See the note below or the Project on Assessment Proformas for full detail.).
2. Discuss the review of reinforcement theory above.
3. Decide with one other teacher or more, how you want to improve your reinforcement strategy.
4. Practice the improvements you have decided.
5. When you are both ready, observe each other’s teaching with the express purpose of looking at how you praise and reinforce.
6. Try to evaluate your change in strategy. Did it make a difference to classroom climate, your peace of mind, student attainment etc?
7. Consider developing a reinforcement policy for your programme that addresses this important issue and ensures that all students get regular reinforcement.

#### Appendix

**A note on the use medal and mission feedback.** See the Action Research Proposal on Assessment Proformas for a related approach. The best feedback is ‘medal and mission’. That is, it contains a ‘medal’ for what is done well, and a ‘mission’ for how to get better. Its hard to do but…….

The ‘medal’ should be as already described:

* 1. **Frequent**
  2. **Task centred not ego centred**, that is, focussed on the task rather than the student’s ability: ‘all the spelling is correct’ not ‘you are a good speller’
  3. **Student referenced**, not norm referenced. That is, praise should be given for what is a reasonable achievement for that student, not for what would be good for an average student in that class.
  4. **Specific,** not vague. That is, it should be clear exactly what is being praised. E.g. ‘all the key points were included’, not ‘good work’**.**
  5. **Sincere.** That is, the student should think you really meant it, and so it should not consist entirely of often repeated phrases, or appear as if you are just trying to make the student feel better.

The ‘mission’ should be:

**Forward looking and positive**that is focussed on how to do it better next time, or how to improve the work, rather than on what was wrong with what has just been completed. (It will then sound like advice rather than criticism.)

**In the form of a target** that can be checked-up on.

Assessment Proformas can be very simple like the one below, or more complex like those in the Action Research Proposal on Assessment Proformas.

**Strengths**:

**Opportunities for Development:**

**General Comments:**

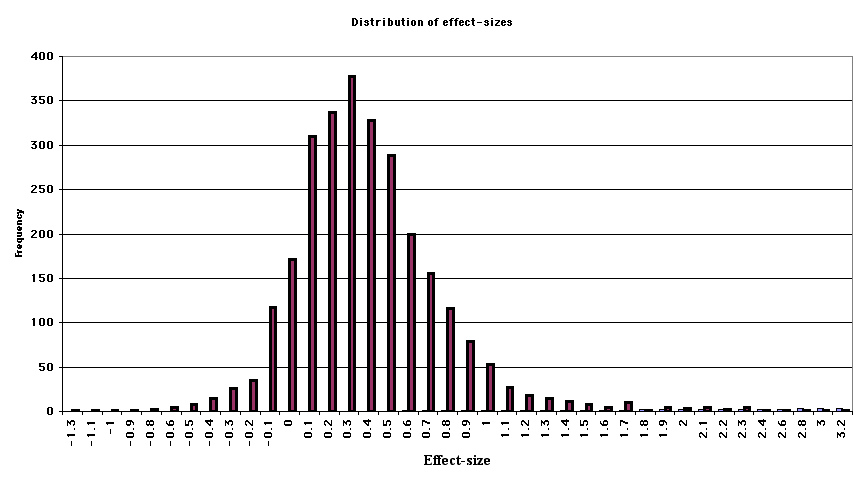
**What has the greatest influence on student learning?**

The work of John Hattie, Professor of Education University of Auckland is very informative in this respect. He has analysed 200,000 ‘effect-sizes’ from 180,000 studies representing 50+million students and covering almost every method of innovation. (See his website)

He says ‘effect sizes’ are much the best way of answering the question ‘what has the greatest influence on student learning’. An effect-size of 1.0 is typically associated with

* advancing children's achievement by one year,
* improving the rate of learning by 50%,
* a correlation between some variable (e.g., amount of homework) and achievement of approximately .50.
* average students receiving that treatment exceeding 84% of students not receiving that treatment.

An effect size of 1.0 is clearly enormous! (It is defined as an increase of one standard deviation)

Most innovations that are introduced in schools have an effect size of around .4. This is the benchmark figure and provides a "standard" from which to judge effects.

Most educational research on teaching effectiveness has been done in schools in Amercia

Comparison points for Effect sizes

When looking at the effect sizes that follow, compare them with these:

* student maturation .10
* a teacher in front of a classroom .24
* innovations in schooling .40

**Professor John Hattie’s average effect sizes.**

Effect sizes above 0.4 are shown bold. These are above the average for educational research. The ‘number of effects’ column gives the number of effect sizes of this type that have been averaged to create the ‘effect size’ in the next column. (I don’t know all these figures.)

|  |  |
| --- | --- |
| **Strategy Average Effect Size** | **No. of effects averaged** |
| **Teacher process influence** |  |
| **Reinforcement 1.13** | 139 |
| **Instructional quality 1.00** | 22 |
| **Corrective feedback .94** |  |
| **Remediation/feedback .65** | 146 |
| **Challenge of Goals .52** | 2703 |
| **Diagnosis feedback .52** |  |
| Extrinsic rewards .37 |  |
|  |  |
| **Teacher methods** |  |
| **Direct instruction .82** | 253 |
| **Remediation/feedback .65** | 146 |
| **Class environment .56** | 921 |
| **Peer tutoring .50** | 125 |
| **Mastery learning .50** | 104 |
| **Homework .43** | 110 |
| **Teacher Style .42** |  |
| **Questioning .41** | 134 |
| Advance organisers .37 | 387 |
| Simulation & games .34 | 111 |
| Computer-assisted instruction .31 | 566 |
| Instructional media .30 | 4421 |
| Testing .30 | 1817 |
| Programmed instruction .18 | 220 |
| Audio-visual aids .16 | 6060 |
| Individualisation .14 | 630 |
| Behavioural objectives .12 | 111 |
| Team teaching .06 | 41 |

|  |  |
| --- | --- |
| **Student influences** |  |
| **Students prior**  **cognitive ability 1.04** | 896 |
| **Students disposition to learn .61** | 93 |
| Affective attributes of students .24 |  |
| Physical attributes of students .21 |  |
|  |  |
| **Home influences** |  |
| **Home factors .67** | 728 |
| **Parent involvement .46** | 339 |
|  |  |
| **Social influences** |  |
| Peer .38 |  |
| Television -.12 |  |
|  |  |
| **School Policy Influences** |  |
| **Teacher in service education .49** | 3912 |
| Aims & policy of the school .24 |  |
| Ability grouping .18 |  |
| Finances/money .12 |  |
| Physical attributes of the school -.05 |  |
| Keeping students back a year -.15 |  |

**‘Direct instruction’** is highly structured teaching with built in reviews, student activity etc, rather like the National Literacy Strategy. See “Effective Teaching: Evidence and Practice Daniel Muijs David Reynolds (2001) Paul Chapman Publishing for a chapter on this.

‘**Remediation’** is students doing work to put right their weaknesses, errors or omissions.

**‘Peer tutoring’** is students teaching each other in a planned way, for example checking each other’s calculations, explaining a worked example to a peer etc.

**Waldberg’s study**

A similar study by Walberg reviewed effect sizes in education to produce the following table. Notes on vocabulary:

**‘Reinforement’** means praise and other rewards

**‘Cues’** are attention cues, that is, suggestions by the teacher for the student to pay special attention in a given area

**‘Cooperative learning’** is learning assignments done in groups in a particular manner, this is very popular in the States and there is lots on the internet about it.

**Instructional Strategy Effects on Student Learning Outcomes**

|  |  |  |  |
| --- | --- | --- | --- |
| Rank order | Method | Effect  Size | Percentile |
| 1. | Reinforcement | 1.17 | 88 |
| 2. | Cues and feedback | .97 | 84 |
| 3. | Graded homework | .79 | 79 |
| 4. | Cooperative learning | .76 | 78 |
| 5. | Class morale | .60 | 73 |
| 6. | Personalized instruction | .57 | 72 |
| 7. | Home interventions | .50 | 69 |
| 8. | Adaptive instruction | .45 | 67 |
| 9. | Tutoring | .40 | 66 |
| 10. | Instructional time | .38 | 65 |
| 11. | Home environment | .37 | 64 |
| 12. | Higher-order questions | .34 | 63 |
| 13. | Individualized instruction | .32 | 63 |
| 14. | Individualized mathematics | .32 | 63 |
| 15. | Teacher expectations | .28 | 61 |
| 16. | Assigned homework | .28 | 61 |
| 17. | Computer-assisted instruction | .24 | 59 |
| 18. | Peer group | .24 | 59 |
| 19. | Sequenced lessons | .24 | 59 |
| 20. | Advanced organizers | .23 | 59 |
| 21. | Homogeneous groups | .10 | 54 |
| 22. | Class size | .09 | 54 |
| 23. | Programmed instruction | -.03 | 49 |

Source: Data from Herbert Walberg, “Improving the Productivity of America’s Schools,” Educational Leadership, 41, no. 8 (1984): 24. (Borg & Meredith, 1989)