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I Did It My Way!
An Introduction to "Old Way/New Way" Methodology

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Old Way/New Way is an approach to remedial teaching developed by Harry Lyndon, a Guidance Officer working in the Southern Area of the South Australian Education Department. In this paper he has presented an introduction to this method and a brief description of its application to an instructional problem.

Students regularly develop their own computational algorithms, ways of spelling words and reading strategies. These, however, often contain errors which are most resistant to conventional remediation. A new remedial approach has been developed which facilitates the process of change. During extensive trials in South Australian schools, the methodology has shown considerable promise in resolving a major problem associated with remediation: that of transfer. A theoretical perspective has been developed which seeks to account for the higher rates of transfer observed when this method is used than when conventional approaches are implemented. Central to this new perspective is the suggestion that a specific brain mechanism is responsible for the difficulties in transfer associated with conventional remediation. The application of this *Old Way/New Way* methodology is presented as it applies to the remediation of spelling errors.

Evolution of a Perspective

Avoidance. You can easily learn it.

For some years now I have researched student underachievement. Although underachievement remains a major challenge to us all, significant develoments in both theory and practice have been achieved.

Formal classroom observations of educational and social strategies adopted by underachieving students, led to the description of a syndrome referred to as "Avoidance of Learning". A major study was subsequently commenced in 1973 which concentrated on the particular attitudes, behaviours, and error patterns displayed by underachieving children (Zech & Wilson, 1976). The outcomes of this research led us to reconsider the use of behavioural definitions of learning and to adopt a cognitive, rather than behavioural, perspective for future work. Consequently, avoidance of learning as a descriptive title was modified to the more appropriate "school based avoidance learning" (Lyndon, 1980).

Avoidance was described by William James (1890) who noted that "With no attempt there is no failure, and with no failure there is no humiliation." Avoidance behaviour is evident in a wide variety of situations, including schools. Our research has indicated that many students develop avoidance behaviours within the first year of schooling. Principally, this arises from the experience of difficulties in performing basic skills. Negative self-evaluation is a major factor in avoidance and it has been shown that much of the anticipated fear of failure is unwarranted as often, the task avoided may have been successfully completed. (Lyndon, 1980). The social, behavioural, and educational consequences of avoidance are cumulative and so become more evident as students advance

through the grades. For some students avoidance becomes a habit and an obstacle to their academic success which, without assistance, they find difficult, if not impossible, to overcome.

Learning – You can't avoid it!

The change in our thinking, i.e., that children learned to avoid, rather than in some senses, avoided learning, was important to our developing perspective on underachievement. It also became apparent that far from being helpless victims of an uncaring educational system, these students were actively manipulating their educational environment. Far from lacking motivation, these students were in fact very motivated to avoid situations in which they anticipated failure.

From our perspective learning is viewed as an innate process. We do not control this process any more than we control other innate processes such as breathing or heart rate. That which individuals do come to control and which plays the major role in what an individual learns, is the voluntary aspect of the process of attention.

It is our view that whatever a child pays attention to, either voluntarily or involuntarily, determines what is learned. What the child knows prior to an experience will determine what is available for conscious recall.

"Yes, I did it my way!"

A major and most serious consequence of avoidance behaviour is the development of significant misinformation and misconceptions. These arise from the active role children take in constructing their own realities. When children's attention to their teachers is not consistent, their grasp of the concepts being presented is incomplete. Nevertheless, these students do develop some understanding of what they are experiencing. They understand it in their own way. An example of this is the child who wrote Ƨ for the numeral 2 and was asked if indeed that number was a 2? "Yes" he replied somewhat indignantly, "I did it my way!" He had obviously been asked that question before!

The development of what we refer to as "own ways" of spelling words or solving of mathematical problems are by no means unusual or unnatural. Recent changes in early childhood education methods actually encourage the development of idiosyncratic knowledge as a means to an end. Such idiosyncracies are quite unavaoidable within our current educational climate and indeed are examples of that irrepressible creativity we all possess. The problem for teachers and parents in these creative own ways is that for some pupils, change is not easy to achieve.

Ausubel (1968) was very aware of the difficulties caused by students preconceptions:

> *The role of preconceptions in determining the longevity and qualitative content of what is learned and remembered is crucial . . . the unlearning of preconceptions may well prove to be the most determinative single factor in the acquisition and retention of subject matter knowledge.* (p. 135)

A significant observation of our study into avoidance was that students were consistent in using their own ways of spelling words, or in using computational algorithms. Teachers' sampling of errors across a class tends to result in the conclusion that errors are random. However, when given the time to review the work of an individual in detail, teachers readily agree with the notion that the performance, though idiosyncratic, does show internal consistency.

Recent research conducted by DeMasters, Gossland, and Hasselbring (1986) confirms our own research. In their examination of the spelling performance of 20 learning-disabled children they concluded that: Learning-disabled students were consistent in their attempts to spell words; their attempts revealed systematic, rather than random or guesswork attempts at spelling; both good and poor spellers demonstrated a high degree of spelling consistency; irrespective of skill level, learning-disabled students used systematic approaches to spelling, regardless of the accuracy of such attempts; and learning-disabled students were remarkably consistent in the specific errors they made.

In our research program such consistencies were observed in all curriculum areas, in physical skills, and also in behaviour. The same pattern of applied misconceptions emerges. The importance of this outcome for teachers and parents is that when confronting the errors of their children they are confronting a problem of knowledge, not its absence.

Learning disability, or high proactive inhibition?

A recent review of the progress of children receiving "remedial" tuition had this to say:

> *Research investigations into remedial teaching effectiveness are pessimistic. Although improvements often take place inthe short term, in the long term these gains fade. Changes in performance, therefore, are not permanent. Remedial education offered many students short term benefits, a few were "harmed" and in the long term it made little difference.* (Read, 1987)

Why is it that these children find change so difficult? Our results suggest that there is a more plausible view than that the children are simply learning disabled.

Since the 1920's psychologists have been investigating the mechanisms involved in knowledge acquisition, storage, and recall. Two of these mechanisms, proactive, inhibition and retroactive inhibition have been shown to significantly interfere with recall. Extensive investigations by many researchers have resulted in detailed descriptions of the action and characteristics of these mechanisms (Underwood, 1966), but because of the esoteric nature of this research it has not led to any practical applications. In 1980, after 7 years of empirical research into the problem of change and the effect upon transfer of the Old Way/New Way method it became apparent that proactive inhibition was principally responsible for preventing transfer under the conditions found in the use of conventional remediation (Lyndon, 1982, Lyndon & Malcolm, 1984).

Key elements in the perspective

1. Errors represent knowledge, not its absence. It is because children actually know what they are doing that we have a problem with transfer.
2. What the individual knows is protected from change.
3. The protective mechanism is known as proactive inhibition. There is considerable variation within the population in the level of proactive inhibition one inherits. The higher your level of proactive inhibition, the more resistant you will be to conventional remediation.
4. It must be emphasised that proactive inhibition does not prevent learning from occurring.
5. Proactive inhibition prevents the association of conflicting ideas.
6. Proactive inhibition will inhibit the recall of knowledge which is in conflict with prior knowledge.
7. The inhibitory effects of proactive inhibition may be reduced by the use of the Old Way/New Way method.
8. Use of the Old Way/New Way method may lead to the retroactive inhibition (i.e., forgetting) of the "old" knowledge.

Proactive inhibitory effects are evident where prior learning is in conflict with current learning. An example of the proactive effect is the persistence of reversals in children despite intensive remedial effort. In the past reversals have been popularly viewed as being due to perceptual problems. It is more plausible to view these as a result of the mediation, by proactive inhibition, of competing responses available to the child.

It cannot be said that a child who writes Ƨ for 2 does not know what he or she is being asked to write. The consistency in performance alone indicates that the pupil understands what is required. This is so despite the fact that the child is in error in producing his/her own way. Conventional remediation seeks to eliminate the error through practice and generalisation of the correct response. In most remedial settings children are quite capable of learning and reproducing what is required. This does nothing, however, to overcome the inherent conflict in knowing how to write Ƨ and 2 for the same numeral. This is a basic functional problem for the child's recall mechanisms. Which one of the competing presentations will the child use? The usual consequence is that the brain proactively inhibits the correct alternative. The child's prior knowledge is the basis of his/her independent performance.

Conventional remedial methods actually cause the activation of the proactive inhibitory mechanism. The symptom of this is confusion, which in turn leads to slowness in performance, frustration, and eventually avoidance behaviour. The pupil knows how to write Ƨ when asked to write the numeral 2. To be told that he or she is wrong, or does not know how to write the requested numeral, is incomprehensible to many pupils. We all know that such students can be taught the correct alternative.However, we also know that for many the end result is confusion and eventual return to their own way. The performance of these children may also become dependent on cues. With the remedial teacher present the child will often produce the correct response. When the teacher is absent the child reverts to the prior knowledge. These phenomena can no longer be used as evidence that children are learning disabled, as they are readily accounted for by the action of the proactive inhibitory mechanism. To have a high level of proactive inhibition means simply that you have good knowledge protection and a good memory.

Using Old Way/New Way

This method uses the reactivation of the specific performance memories relating to the "error". The reactivation is achieved through using the childs "own way" as the starting point for change. This reactivation is a necessary condition for rapid remediation and transfer to independent functioning. A reactivated "error" enters our short term or conscious memory. It is at this point that the modification of memory is possible. Change does not appear to be achieveable without some form of reactivation of the error memory.

Using Old Way/New Way to change spelling

Prior to starting any trial, analyse the "error" and establish rapport with the child.

1. Ask the pupils to spell the word their own way. Then ask if you can call this the "old way" of spelling the word. It is important that the pupil acknowledges in some manner the labelling of their way as the old way. Strong resistance to labelling is rare and indicates that you may need to establish better rapport.
2. Ask the pupils if you can show them a "new way" of spelling the word. The pupil's consent is a signal that he/she is attending to you.
3. Demonstrate the new way and draw attention to the differences and similarities between the old way and the new way. When discriminating between the two use the labels "old way" and "new way".
4. Ask the pupil to do it the old way again. It is important for pupils to repeat their "own way" before attempting the new way.
5. Ask the pupil to write the word the new way. Then ask the pupil to tell you the difference between the old and new ways of spelling the word. (N.B., We do not anticipate that pupils will be able to easily articulate the differences.) It is the teacher's role to support the pupil in attending to and articulating the differences. It has been observed that both adults and children require three facilitated discriminations before ease of response is evident.
6. The procedure of asking the pupil to spell the old way, then the new way, followed by articulating the differences and where relevant the similarities, is repeated until five such discriminations have been completed. (N.B., This is in addition to the original teaching phase.) Our research has shown that the five discriminations are both necessary and sufficient for this phase of the procedure.
7. The new way must now be generalised. In very young children this may be achieved by simply writing the word the required six times. Novelty during this phase is readily achieved through the use of different writing mediums or by introducing the notion of different sizes in writing the word. A particularly popular strategy we have found is to ask the pupil to write the word progressively smaller until only they can see it.

For older pupils ask them to write six simple sentences using the new way spelling of the word. It is preferable for the students to construct their own sentences. However, it is acceptable to facilitate the generalisation by suggesting sentences. This is a matter of judgement. The last three sentences are the most difficult for pupils to construct but also the most valuable in terms of generalisation and transfer.

Don't panic if...

1. . . .you ask the child to write a word their own way and instead they spell it correctly, look you straight in the eye, and insist that they have always spelt the word that way.

Action: Tell him/her that it is the new way of spelling the word. Ask them if they know another way of writing the word. This will usually elicit the required old way. Occasionally the pupil is unable at that time to readily recall the old way. In this situation write the old way for the child and suggest that sometimes when he/she writes this word they spell it this way. Ask the child to write the word as shown, label it the old way and proceed.

2. . . .The child writes the word an old way when a new way is required or vice versa. (This may occur at any point in the trial.)

Action: Under these conditions simply point out what has occurred and what is required, and then continue with the trial.

Post-Trial Guidelines

1. It has been established empirically that after one trial, the individual has an 80% probability of recalling the new way, a 20% probability of recalling the old way and a 90% probability of self-correcting an old way. This latter probability is to a certain extent cue-dependent as is also the case in conventional remediation. Although it has not been examined specifically it is plausible to suggest that as a result of the rate of transfer with Old Way/New Way the degree of cue dependency is much less. There is supportive evidence for this hypothesis in that the individual's ability to discriminate between the old and new ways is strongly maintained for considerable periods of time after the trials.
2. One trial is usually insufficient for full inhibition of the old way, particularly in children. This is due to the phenomenon of spontaneous recovery. (Underwood, 1966). As the name implies, what is "spontaneously recovered" is the old way. We have observed that this effect becomes apparent 2 to 3 weeks after trials with a particular concept. Consequently, we advise further trials with the same concept after 2 weeks.

It has been established that there is no improvement in transfer from more frequent trials. This makes Old Way/New Way a most efficient remedial program in respect of time taken per concept.

With some children up to four or even five trials spaced 2 weeks apart have been required to fully transfer some concepts. If more than this number of trials appears necessary, then one should re-evaluate both the analysis of what is considered the old way, and the procedures being followed.

3. As one would expect, new ways benefit from practice. Although additional trials are unnecessary for approximately 2 weeks,

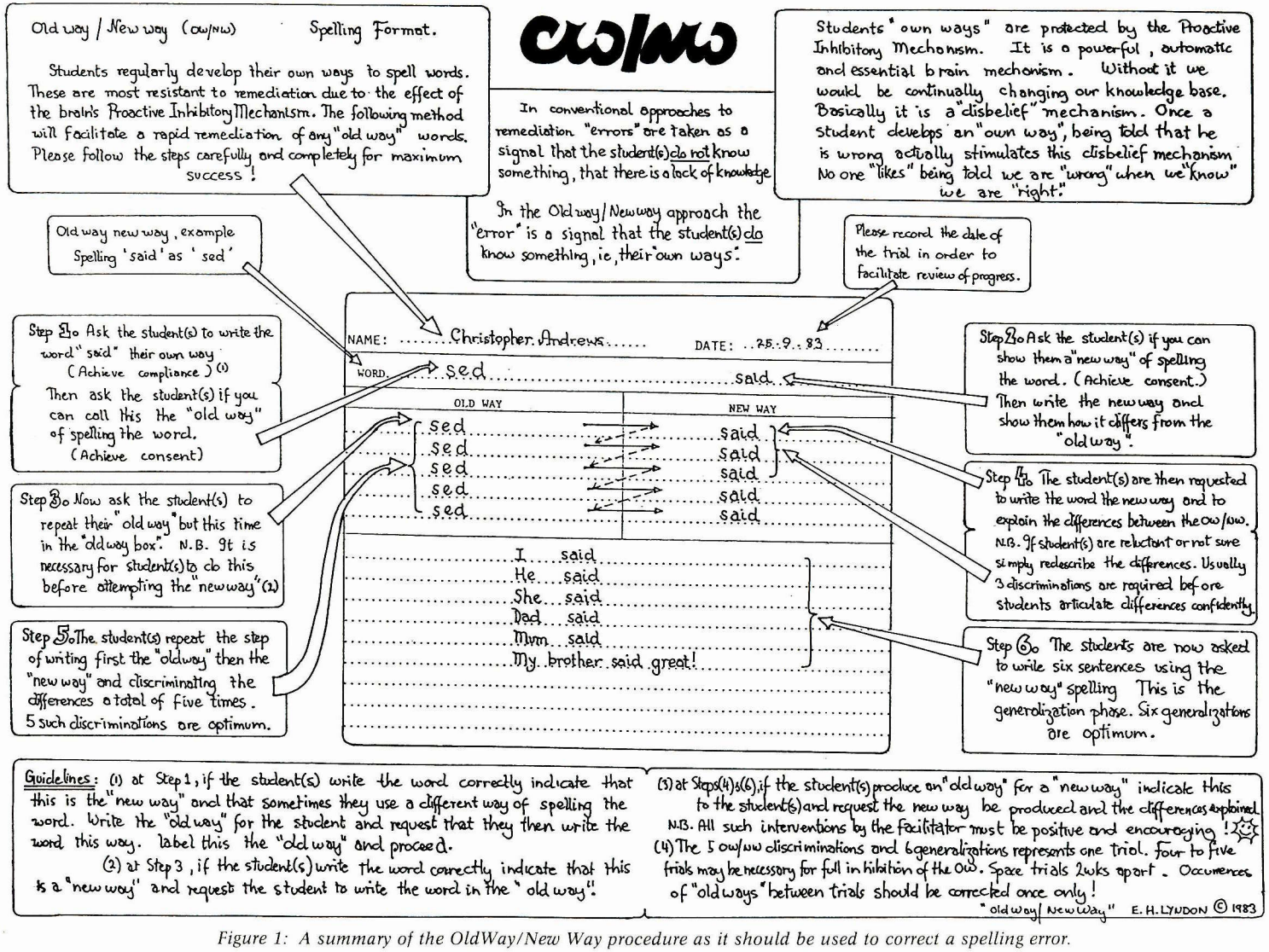

Figure 1: A summary of the OldWay/New Way procedure as it should be used to correct a spelling error.

incidential or deliberate use of the new way is most beneficial. This is particularly so when dealing with complex old ways such as misarticulations (Lyndon & Malcolm, 1984).

4. Between trials where old ways occur and self correction has not occurred the teacher may intervene. Here, more is not necessarily better.

The simplest and best approach is to bring the child's attention to their old way, ask them to produce the new way and to tell you the difference between the two. This has been found to be sufficient in reactivating the new way. Regular occurrences of the old way despite this type of intervention indicates that further trials are essential. Do not, however, be tempted to retrial before the appropriate time. Patience and acceptance of the meaningfulness of the child's own ways will bring major affective benefits to both teacher and child.

5. Selecting old ways from the child's current work is a good method for ensuring the meaningfulness of the trials. Often students will select words which, although of interest, have a low frequency of use in their work. This may lead to the need for more trials. Spontaneous recovery is a powerful natural phenomenon.

6. During trials, focus is maintained on the discrimination between the old and the new ways. Do not bring the student's attention to any other errors that are made.

7. It is helpful for the pupil and the teacher if the work is neatly set out. This can be achieved by following the format outlined in Figure 1, (a facsimile of and Old Way/New Way poster made available to teachers trained in the technique).

Concluding Remarks

Old Way/New Way was approved as a remedial methodology by the South Australian Education Department in 1983.

Since that time, the author has been involved in training teachers in the use of this remedial method, on a part-time basis.

The method is applicable to many situations in which we require change in what has been learnt. The procedural framework outlined in the example above applies also to any other cognitive area. It has, for example, been successfully used to deal with old ways in mathematics, handwriting, reversals, and behaviour.

This is a brief introduction to the methodology; there remain many issues which require extensive elaboration but which are beyond the scope of this paper. Hopefully some readers will be encouraged to try the method. I am sure that those who do will find it a challenging and rewarding experience.

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