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Learning How to Learn: Feuerstein's Instrumental Enrichment Programme

If we are to teach children who have learning difficulties, we as teachers need to know about learning. Originally intended to respond to the learning needs of children arriving in Israel from the horrors of the Holocaust, the Instrumental Enrichment programme developed by Reuven Feuerstein is based on the belief that children can be changed from ineffective, passive thinkers to involved active learners.

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CAN INTELLIGENCE BE TAUGHT?

Can children acquire 'intelligence', and can children with special educational needs be so changed as to enable them to learn more efficiently and effectively? Searching questions such as these have been asked over many generations, but the intense interest in the "thinking skills" movement has grown rapidly, particularly in the past twenty years. One current major difference from previous interest is that it is no longer a largely theoretical approach, but teachers themselves have initiated projects and are heavily involved in this resurgence of interest in practical teaching and learning initiatives. The application of theoretical approaches is not new, although specific 'thinking skills' courses have only appeared on the school time-table in relatively recent years. Whilst there appears to be an explosion of courses aimed at the cognitive development of students, the majority stem from the work, both theoretical and practical of Professor Reuven Feuerstein, an Israeli psychologist renowned throughout the world as the instigator of the belief that children can be changed from ineffective, passive thinkers to involved, active learners.

INSTRUMENTAL ENRICHMENT: MAJOR BELIEFS AND THEORIES

It seems that for many, the name Instrumental Enrichment causes problems and is immediately associated with music. Therefore it is important to explain the fundamental ideas which lead to the use of precise language, thoughtful discussion, interaction and recognition of divergent thinking. Imagine then a class of pupils who are being asked to think about their thinking, express the process which has led them to their ideas and then consider the thoughts, ideas and opinions of their classmates? Add to this their use of precise and accurate language which clarifies rather than obscures.

Is this possible and how did it develop? What has happened is that the students have become aware of their own learning processes and those of others. They have been guided through a carefully structured set of 'instruments' in this case, instruments of learning, and discovered their strengths and weaknesses in a positive, co-operative setting. Feuerstein identifies this ability to change approaches to learning and the consequences of learning how to learn as 'Structural Cognitive Modifiability'.

MEDIATED LEARNING EXPERIENCE

Feuerstein believes that there is no barrier to learning and that everyone can change, irrespective of the causes of difficulty. In recognising the effect of frequently-recognised causes such as medical conditions, deprivation etc., he suggests that there is a way of intercepting the inevitable results of these causes. This approach is initially in the hands of the parent, but if, for whatever reason, this is not enough, it then falls to the teacher to provide the bridge to efficient learning. This he terms 'mediated learning experience' which focuses on the quality of teaching. Thus, the human 'mediator' puts him/herself between the learner and the stimuli-that which needs to be learned - in order to guide, interpret and give meaning to those stimuli. In this, the quality of mediation is both intentional and vital.

The responsibility for change is focused on the teacher and requires of him/her knowledge, understanding and skills associated with theories of learning and practical applications. The premise is that if we are to teach children who have learning difficulties, we need to know about learning. Feuerstein suggests that, for too long we have pointed 'the stiff finger' at the child and labelled them slow, behaviourally disturbed, disabled or whatever the current vocabulary is, when instead we should be turning that finger to ourselves and asking, 'what am I doing about it, and is it enough? What else can be done?'

CRITERIA FOR MEDIATING LEARNING

Feuerstein and his colleagues have identified 10 major criteria which are present in quality teaching. They are :

- 1 Intentionality and reciprocity**
- 2 Meaning (both explanation and value)**
- 3 Transcendence (going beyond the immediate and direct need)**
- 4 Transmitting the feeling of competence to the students**
- 5 Enabling students to self-regulate and control their behaviour**
- 6 Generating a sense of sharing**
- 7 Recognising the individual ways of learning, strengths and needs**
- 8 Enabling students to plan, set, achieve and evaluate goals**
- 9 Fostering a sense of challenge**
- 10 Fostering students understanding that they can change their ability to learn and achieve.**

Whilst Mediated Learning Experience is the key to quality teaching and learning, this does not necessarily come about incidentally, although good teachers can be observed utilising these criteria unconsciously. Feuerstein suggests that we all need to be sensitive and aware of certain key elements before, during and after our teaching. For example, we need to know about the phases of learning and the cognitive functions and disfunctions which underpin learning and the difficulties which may be present.

COGNITIVE FUNCTIONS AND DISFUNCTIONS

When considering the characteristics of low-functioning learners, descriptions are often to do with outcomes, e.g. cannot read, concentrate, remember, make friends, behave, etc. The cognitive approach suggests that we tackle the underpinning learning tools or deficits which lead to these characteristics and that we should be concerned with teaching strategies which change the student's approach to learning. Consequently we ensure a direct and conscious attack on cognitive deficits. Some of these can be listed as follows:

CHARACTERISTICS OF LOW-FUNCTIONING LEARNERS

- blurred and sweeping perception
- unclear and unsystematic data gathering
- inappropriate planning, or lack of planning behaviour

- verbal inaccuracy
- narrowing rather than elaboration of concepts
- inappropriate, egocentric expressive behaviour
- lack of conscious identification of principles which may be bridged into academic areas as well as student's own experience.

BRIDGING: LEARNING ADAPTABILITY

This last focus, that of bridging, is an important feature of the programme, ensuring that lessons learned can be applied in other areas.

Here Feuerstein is adamant about the vital need for adaptability, particularly in a world of constant change. Learning to adapt and apply principles of learning to new and unfamiliar situations or demands are features of successful learners but sadly lacking in people with learning needs. Lessons which neglect the wider application of principles learned, lack the enriching experience necessary for intelligent application.

An example of bridging within the Instrumental Enrichment lesson may be demonstrated in the following. The first Instrument deals with Organisation. Pupils address and become familiar with the principles of good organisation through content-free paper and pencil exercises.

Through discussion, planning ahead, sharing strategies and restraining impulsivity, they 'solve' the problem, identify the underpinning principles which are then applied to other situations. Thus the principle of acquiring the habit of taking time to think and plan before acting (restraining impulsivity) is bridged into planning homework schedules, essays, projects, using charts, time-lines, illustrations, organising experiments, creating graphs, sorting data, allocating jobs and roles and checking work to see that the objective has been achieved.

THINKING ABOUT THINKING

Students give examples of the advantages of planning in their own lives, saving or spending money, use of free time, organising journeys, events and shopping. Using past experience, thinking ahead becomes a familiar practice involving revisiting recent learning thus aiding memory, hypothesis, consideration of choices and decision making based on evidence. They learn how to identify errors in order to correct them and learn from those mistakes.

In thinking about their thinking, and that of their peers, they are conscious of the process until it becomes embedded in their learning. They learn the essential pre-requisites for developing and using cognitive operations and are then more able to utilise the 'intelligent' thinking more frequently associated with those described as bright or gifted.

THE INSTRUMENTAL ENRICHMENT PROGRAMME

The programme is not a 'quick fix'. In dealing with learning difficulties, no approach will have instant success therefore the IE Programme is taught over a period of two to three years. There are 14 instruments which introduce major principles associated with aspects of learning. As each principle is met, used and bridged, previously learned principles are reintroduced ensuring constant use and assimilation. Throughout the Programme the teaching style, pace and organisation is significant and demonstrates the use of mediation in order to involve students in their own learning, ensuring that they are active, rather than passive learners.

TRAINING

One of the features of Feuerstein's programme is his insistence on thorough training for those who explain or teach IE. There are three levels of training. Level 1 takes in four or five Instruments and occupies approximately 40 hours, or five days. For each of the other two levels the requirement is the same. Trainers of IE should have taught IE at every level and all should have been accredited by Feuerstein after advanced training in Jerusalem.

The insistence on in-depth training is underpinned by the belief that good teaching is complex and teaching efficient thinking and learning requires considerable investment. For example, on seeing the Instruments/teaching materials without training, they appear to be straightforward pages of puzzles. If approached in a way common in many schools the aims and goals of teaching cognitive development are not touched in any way, and those who can do the puzzle, do it, and those who cannot, fail to learn from the experience.

APPLICATION: A PROGRAMME FOR ALL LEVELS OF NEED

Initially intended to respond to the learning needs of children arriving in Israel from the horrors of the Holocaust, the IE Programme has developed into an approach recognised and used world-wide. The suggested starting age is from 10 years, although use is often centred on Secondary aged (11-18) students.

Where Pupils have significant learning difficulties, for example, where they are classed as having mild learning difficulties, the programme is often more beneficial from the age of fourteen, but this is not to be regarded as exclusive since the quality of IE lies in the teacher's ability to choose and adapt according to the needs of the pupils. The course is best taught in specific, dedicated time and for approximately 2.5 to three hours per week. The difficulty in fitting this into already crowded timetables is a well-known phenomenon but where a school believes in the importance of direct action on enhancement of learning skills, it is possible to find the required time. The first step is to recognise the worth of such a programme in relation to other subjects, and that it does have an effect on pupils' achievements.

SOME EXAMPLES OF APPLICATION

One school, St. Mary's Catholic Comprehensive School in Newcastle, England has an impressive record of improvement in public examinations results since instituting thinking skills courses in the curriculum. In adopting the approach as part of the school's belief in the worth of tackling learning, the Headteacher and staff are looking to improve the learning skills and outcomes for all pupils, not just those experiencing difficulties.

Around the world there are examples of the programme being used in a variety of establishments and with individuals.

For example in Canada there are reports of its use in Reform Centres and prisons; in Italy and France there are existing developments of IE with blind students other centres describe its use with adults, gifted pupils, pre-university students, geriatrics and teachers on post-graduate courses. In England the initiative launched in 1984 faltered when the National Curriculum obliterated much of which was good in school but which did not appear in the stringent requirements and content prescribed. A recent Department for Education review has reduced the content and the resulting requests for further information about courses in thinking and learning skills have increased significantly.

DYSLEXIA: SPECIFIC LEARNING DIFFICULTIES

One area of educational need where particular interest has been shown is that encompassing dyslexia. The attention given in the course to enhancing and harnessing efficient cognitive functions has appealed to those concerned with

addressing difficulties underpinning the observable characteristics of people who have dyslexia. Focusing and dwelling on the significant spatial orientation concepts in the second instrument, Orientation in Space 1, leads to the appreciation of minute spatial differences, seeing things from different angles yet conserving essential features. Relating and sequencing, comparing and analysing, identifying and summarising information are recognised, practiced and used in challenging exercises before being applied to other, varied situations.

DEVELOPMENTS

Whilst the original Instrumental Enrichment Programme is constructed for Second Level pupils, the principles, approach and practices encouraged are clearly worth applying to other age-levels.

In keeping with the notion of prevention and early remediation, Professor H. Carl Haywood of the Graduate School of Education and Psychology at Tuoro College in New York and Professor Penelope Brooks of Vanderbilt University, Nashville, Tennessee have developed the Bright Start Cognitive Curriculum for Young Children. As its title suggests, the programme is designed to enhance cognitive development in children, chiefly in the 3-6 year age range, or up to 8 years where there are learning difficulties.

Feuerstein's team in Israel has recently developed a set of instruments specifically designed for young adults, and which is being used in industry for apprentices and young workers.

Several other programmes have also been developed from Feuerstein's original programme. These include the Somerset Thinking Skills programme and 'Top Ten Thinking Tactics', designed for use by pupils in the Junior age range. Whilst there is much to recommend these developments, not least the accessibility and quality of materials in the Somerset package, the lack of requirement for in-depth training can lead to poor teaching and ineffective use of a well-designed, comprehensive and complex response to the needs of many learners and their teachers.

CONCLUSION

Having taught the IE programme to secondary pupils described as 'remedial', supported teachers and parents in their teaching and having observed IE in operation, the author sees an increasing need for such a programme in the

curriculum and the repertoire of teachers. For pupils who may be described as special, disabled, confused or difficult, it can be an opening to more successful learning. In staying with the authentic Instrumental Enrichment Programme its breadth, depth and rigor are recognised whilst acknowledging the interesting new developments generated by Feuerstein's work.

Whatever the vehicle used, the quality lies with the teacher and his/her understanding of this rich and powerful approach.

When asked who should be taught such a programme, since it appears to offer so much to everyone, without hesitation Feuerstein answers, "to those who need it most". Can we afford to ignore this message ?

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