

2016 Study Grant



Liz Sissons' Memorial Scholarship Grant

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Introduction

Thanks to the opportunity afforded me through the Ministry of Education's sabbatical programme for principals, Marlborough REAP, the Marlborough Principals' Association and the New Zealand Principals' Federation, I was able to follow through an area of growing interest initially brought to the attention of Havelock School teachers by the TVNZ Sunday programme in August 2014. Our Deputy Principal Vicki Eden in January 2015 funded her own initial training in Auckland and with the Board of Trustees consent, established a pilot to use **Feuerstein Instrumental Enrichment** across her mainstream middle-school class. Traditionally (60 years) used within the special needs area, this was a bold step and one not oft repeated around the globe. Similar interest had also been followed in the Scottish Borders unbeknownst to us. With the help of RTLB as external moderators, pre and post data was collated and in December 2015 parents received a brief summary of the success of the FIE, particularly in this instance for boys.

FIE is used in clinical situations both in New Zealand and overseas. Some 600 NZ schools use FIE but generally with individuals or in small group scenarios. Very few have ventured into the mainstream - some 5 in the South Island and likely a few more north but there seems to be growing interest across the globe to move FIE into the mainstream. Although FIE first reached NZ shores in 1970 (Howie, 2015), there has been only a gradual uptake of FIE but a NZ online Community of Practice has been established keeping FIE mediators, schools and trainers connected.



Having sparked interest amongst other staff, trustees and parents, the school invested substantially in helping teachers start their training – during holiday breaks either in Christchurch but more usually in Auckland, if in fact trainers were available to meet a variable need. There are very few trainers in NZ and so the expense of international trainers keeps costs high. Teachers and 2 RTLB took the opportunity to travel to *The Brain Changer* in Christchurch in September 2015 and heard further from [Anne Gaze](#) (Campus Link) and [Mandia Mentis](#) (Massey) among others, about how FIE was already being used successfully in NZ and other countries. Given New Zealand's much lauded National Curriculum of 2007 which has at its core the five internationally recognised *key competencies*, FIE has a pedagogical bedfellow. The business of learning to think and thinking to learn sits at the very heart of creating life-long learners who are *learning for life* — Havelock School's mission since 1861.

***"Intelligence is not a static structure,
but an open dynamic structure
that can continue to develop throughout life."***

Reuven Feuerstein¹

Instrumental Enrichment (IE) is the cognitive intervention program used individually and within the classroom. The IE programme is successfully used worldwide as the tool for the enhancement of learning potential and cognitive functioning of Learners. IE, as a classroom curriculum, is aimed at enhancing students' cognitive functions necessary for academic learning and achievement, and ultimately their life chances.

- 3 000+ published and peer reviewed articles
- 60+ years of implementation/development
- Not-for-profit
- Implemented by multiple governments internationally
- 100 000 students in Europe delivered the programme daily

Suffice it to say that in 2016, the Havelock pilot has been extended across virtually the whole school (Yrs 2 – 8) and is mediated 4 days a week by class teachers for 50 minutes. Materials (instruments) are purchased through the Feuerstein Centre in Auckland and the work surrounding the sabbatical relate in part to reporting how the school-wide pilot has fared in 2016 but also how a new (2012) instrument (FIE Tactile) can support ADHD learners, people with special needs and those with impaired vision.

This brief paper attempts to give some insight into *FIE Tactile-Kinesthetic* following training of the author in July 2016 in Prague at the Feuerstein Institute's International Summer School (Shoresh) by Professor [Roman Gouzman](#).

Even more briefly, this [vimeo link](#) gives an insight in under 4 minutes.

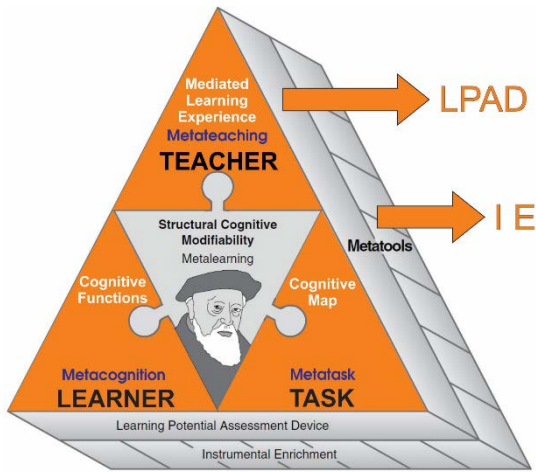
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Feuerstein Instrument Enrichment (FIE)

Howie notes in her 2015 paper in *Kairaranga* that recent work on the brain through brain imaging etc, has revealed that brain functioning is more modifiable than was previously thought. This has enhanced interest in the approaches to the teaching of thinking (Key Competency NZC, 2007) which have as their aims the modification of brain functioning (neuroplasticity). Following his work with addressing the needs of children having difficulty in adjustment to schools in Israel following the Holocaust, Reuven Feuerstein a Romanian Jew, as early as the 1970's, could only theorise about the brain's structural cognitive modifiability, and how with active moderation, modify how an individual can learn and think, rather than a passive acceptance approach particularly where this saw intelligence as fixed. Of central importance is the role of the mediator supporting efficient independent cognitive functioning. Nowadays both the new science of neuroplasticity and the multitude of research articles on his IE programmes etc support Feuerstein's early belief and subsequent theory that *intelligence is not a static structure*.

¹ **Reuven Feuerstein** (Hebrew: רֵאוּבֵן פִּירְשְׁטֵין; August 21, 1921 – April 29, 2014) was an Israeli clinical, developmental, and cognitive psychologist, known for his theory of intelligence which states "*it is not 'fixed', but rather modifiable*". Feuerstein is recognized for his work in developing the theories and applied systems of: structural cognitive modifiability, mediated learning experience, cognitive map, deficient cognitive functions, learning propensity assessment device, instrumental enrichment programs, and shaping modifying environments. These interlocked practices provide educators with the skills and tools to systematically develop students' cognitive functions and operations to build meta-cognition.

Feuerstein was the founder and director of the International Centre for the Enhancement of Learning Potential (ICELP) in Jerusalem, Israel. For more than 50 years, Feuerstein's theories and applied systems have been implemented in both clinical and classroom settings internationally, with more than 80 countries applying his work. Feuerstein's theory on the malleability of intelligence has led to more than 2,000 scientific research studies and countless case studies with various learning populations (See bibliography and publication on Feuerstein's work). ([Wikipedia](#))



(Mandia Mentis M. D.-B., 2009)

Central then is the belief of structural cognitive modifiability and the optimism which this engenders, for without it there is little hope and inevitably, the status quo remains. So, *Change is possible and desirable.*

There are 3 critical elements which comprise the learning interaction Feuerstein called the *mediated learning experience* or MLE. Through the MLE the learner develops efficient thinking skills (*cognitive functions*). Cognitive efficiency is enhanced by manipulating (moderating) the learning task which Feuerstein refers to as the *cognitive map*.

The mediated interaction and changes in thinking relate to observing, analysing and adjusting the learning task using the cognitive map.

The *Learning Potential Assessment Device* (LPAD) requires specialist training and is generally used internationally for individual assessment of very complex learning needs and is not a requirement for use of the Instrumental Enrichment cognitive enhancement programme. There is a group LPAD alternative which can be used for exploring needs and informing intervention within the classroom context.

Criteria of the Mediated Learning Experience (MLE)

The MLE is at the core of the FIE and of the twelve criteria identified by Feuerstein, the first three are necessary and sufficient for an interaction to be considered mediation.

Intentionality

By offering a hand, the mediator invites the learner to engage with stimuli (intentionality). In reaching back, the learner's willingness to respond is communicated (reciprocity).

Meaning

It is as if the mediator provides a key to understanding the significance of stimuli. The key, or the mediation of meaning, unlocks and interprets the cultural context in which the mediatee is situated.

The mediator enriches the interaction between the child and the environment with ingredients that do not pertain to the immediate situation but belong to a world of meanings and intentions derived from generations of culturally transmitted attitudes, values, goals and means.

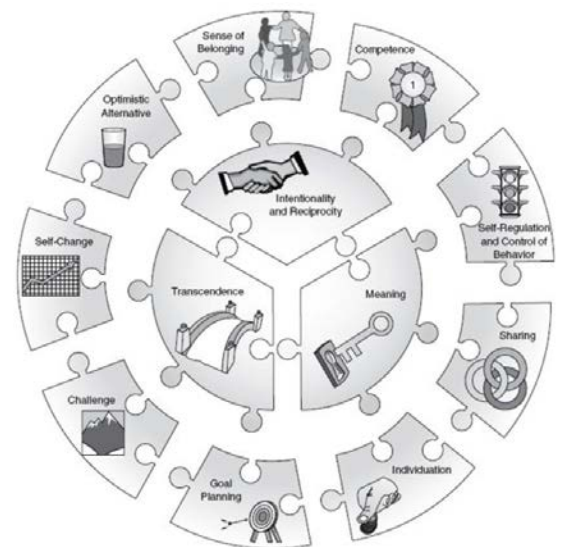
– Feuerstein, 1979

Transcendence

Every single activity has in it the potential for transcendence. Transcendence is the bridge that connects related activities and ideas, and links immediate needs to ever expanding needs for the future.

Education is what survives when what has been learned has been forgotten.

– B. F. Skinner



(Mandia Mentis M. D.-B., 2008)

Mainstream Instruments

The FIE Basic programme has 11 different instruments (A4 paper format) and the Standard programme 14. Each instrument is designed to address a particular aspect of cognition. (Refael S Reuerstein, 2009)

Feuerstein Instrument Enrichment	
Basic Program (5 – 9 yrs)	Standard Program (8+ yrs)
Organisation of Dots - Basic	Organisation of Dots
Orientation in Space - Basic	Comparisons
From Unit to Group	Categorisations
Identifying Emotions	Orientation in Space 1
From Empathy to Action	Orientation in Space 2
Compare and Discover the Absurd	Analytic Perception
Tri-Channel Attentional Learning	Illustrations
Know and Identify	Family Relations
Think and Learn to Prevent Violence	Temporal Relations
Learning to Ask Questions for Reading Comprehension	Instructions
Compare and Discover the Absurd Illustrations	Numerical Progressions
	Transitive Relations
	Syllogisms
	Representational Stencil Design (Scaffolding)

Parallel tactile instruments.

There is no prescribed order of presentation of the instruments to the learner. This depends on an assessment of the developmental and functional needs of the learner/s and more general curricular objectives of the classroom in which the programme is to be integrated. The FIE-B can be applied as a part of the classroom curriculum for all students, related to the goals of cognitive development and enrichment, or as a prescribed intervention directed toward specific cognitive development goals for individual students or selected small groups.

This brief paper cannot provide a full background for FIE, that can be sourced from the links below. Early in 2017 a full paper prepared for the sabbatical will be published in the MoE Leadership Space online. Instead, this paper highlights why and how *FIE T-K* has been developed by Prof Gouzman², inspired and conceived by Prof Feuerstein, for use with a more specific target group.

Why FIE Tactile-Kinesthetic?

The authors of the guide put it this way:

Perhaps the most overarching objective of the FIE T-K programme for blind and visually impaired learners is to develop images and concepts in the absence of visual stimuli. In the programme the modality of “touch” (tactile, kinesthetic, haptic³) substitutes for visualisation and thus contributes to conceptual imaging.

In the case of the ADHD population, the overarching objective of the FIR T-K programme is to “slow down” the attention deficit learner and to transform him/her into a systematic explorer who plans activities and is aware of each stage of the learning process.

The programme uses specially designed instruments to give the learner tactile-kinesthetic information that is placed into a cognitive-developmental context through the application of mediational interventions.

² Prof Roman Gouzman has over twenty-two years worked to develop the Tactile - Kinesthetic approach as Director of the Tactile Instrumental Enrichment Department at the Feuerstein Institute. He has developed eight tactile instruments, methods and strategies for Tactile Kinesthetic mediation and the User’s Guide “Tactile-Kinesthetic Program.” Prof Reuven Feuerstein inspired him to write this guide, signing the Credits and Copyright Notice on the Tactile Kinesthetic approach. This official document acknowledges that the Tactile Kinesthetic approach inspired and conceived by Prof Reuven Feuerstein was developed and executed by Prof Roman Gouzman (*Tactile Papa*).

³ Haptic perception refers to small-scale global acquisition of information based on simultaneous, but proximal palm grasp perception (ie the entire object can be held in the hand and moving fingers over its surface) versus visual perception by sight, which is based on large-scale/superglobal and distant eyes experience.

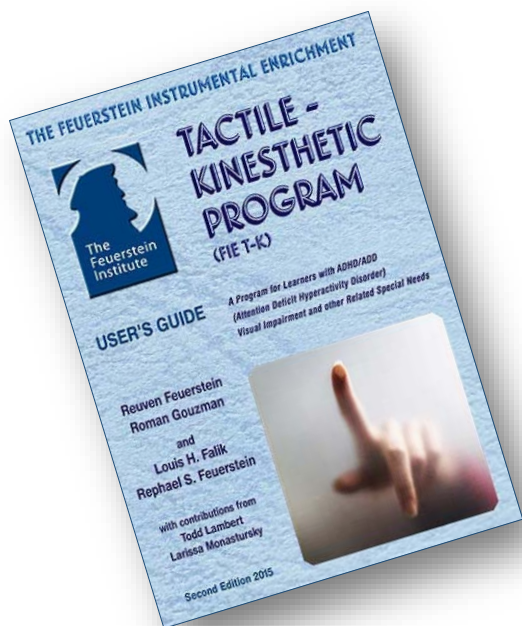
Tactile – Kinesthetic Programme (FIE T-K)

A programme for learners with ADHD/ADD, visual impairment and other related special needs.

- Attention Deficit Hyperactivity Disorder (ADHD):
 - Inattention
 - Hyperactivity
 - Combination of two with or without impulsivity
- Blind/Visually impaired
- Dyslexia/Dyscalculia
- Sensory Deprived

The Tactile version of FIE uses special technology in the form of

- Micro-capsule paper – to emboss graphics (input solution)
- Magnet board and set of ferromagnetic tokens - for response (output solution)
- Raised-line drawing set⁴ (input – output solution)
- Manipulative objects that offer specific forms of T-K experiences
- Set of 3D objects (plastic fruit) for comparison with 2D symbolic representation
- Blindfolds and/or specially constructed box in which learner can manipulate objects without visual input



(Reuven Feuerstein, 2015)

Main Differences Between Tactile and Standard IE

Categories	Tactile IE	Standard IE
Sense	touch	sight
Gathering information	screening by units	simultaneous
Distance	close look	from a distance
Perception	episodic	gestalt ⁵
Process	the process is visible	the process not visible

Tactile Version of FIE – Special Design

The Tactile version of FIE is based on a special design – a set of tactile symbols (symbolic representation). The word *symbol* derives from the Greek word *symbolon*, meaning “token.” The sense of the word meaning, “something which stands for something else,” (Spenser’s *Faerie Queene* in 1590). Symbols have incredible energy as they simultaneously engage with pictorial and abstract meaning leading to visualisation.

Concepts without images are blind...
Images without concepts are empty...
Symbols are the ultimate combination of both:
images and concepts



⁴ A specially designed board that allows the user to write or draw on a regular A4 sheet of paper and make the writing tactile by placing an A4 sheet of standard paper on the board, write with a standard pen, turn the paper over and feel whatever is drawn or written.

⁵ an organised whole that is perceived as more than the sum of its parts (Wikipedia)

The FIE Tactile Instruments

Since most of the IE instruments are based on visualisation, it would seem that they require sight. However, it is a mistake to think that visualisation is based solely on sight. In fact, it is based mostly on imagination and interpretation. Visualisation is the process of interpretation and imagination, and the source of a given input – eyes or fingertips – is quite irrelevant. We can see the external shape of an object, but not its meaning. In many cases we are not able to see very small or very large objects ie electrical current or ocean current. In the same way, letters spelling words and numerals spelling numbers have in themselves no meaning, and yet through visualisation hold meaning even in the abstract. Interestingly the visualisation of an (abstract) emotion might differ substantially for different people. We do not readily see “meaning.” Meaning is initially always hidden and needs mediation. An image, symbol, plan, map or diagram can help us to understand what happens inside or with an object - its meaning. We can do this by comparing a perceptual image, its artificial representation and the mental image stored in our mind. Enhancement of the brain’s library of mental images/concepts is one of the ultimate goals of the FIE T-K programme.

And so through specially devised FIE T-K instruments (A4 embossed sheets) relating to critical cognitive functions, Feuerstein, Gouzman, Falik and Feuerstein structured a framework particularly suited to the target groups. Note the respective *Orientation in Space* instruments appended to this paper – the standard example holds images and the tactile example holds symbols. Please note however, it would be a mistake to assume that the Tactile instruments are simply a version of the basic or standard instruments. While there is a synergy between them in terms of cognitive function, there are fewer and respond to the particular needs of the target groups.



The Sense of Touch – The Penfield Homunculus

Many years ago neurologist Wilder Penfold created a figure intended to show graphically the respective neurological processing proportions used by the brain. The hands illustrate the importance of the sense of touch to learning and neurological processing - approximately half the entire cortex. The large mouth clearly also plays a very important part. The largest part of the cortex corresponds surprisingly to the palm. The tactile sense then features strongly in making meaning and is seriously underutilised.

Verbal misunderstanding is often cited as a cause of interpersonal problems. Words, because they can mean different things to different people, do not help us much in overcoming a communication problem. The tactile-kinesthetic approach would seem to have a particular advantage over just the verbal approach. We might say that in most cases *touch doesn't lie*.

Tactile- kinesthetic cognition is a crucial part of the thinking process, but humans use it only at very early ages of life. Thus, it is not an overstatement to say, “The brain demands touch!” (Reuven Feuerstein, 2015)

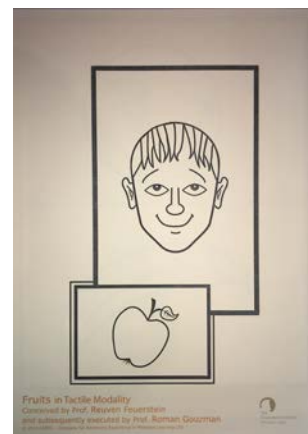
The Feuerstein Tactile - Kinesthetic Instruments		
Introductory	Core	Advanced
Fruit	Orientation in Space - Tactile	Illustrations
Facial Expressions	Comparisons - Tactile	Animals
Orientation in Space: magnetic story board	Analytic Perception	Transportation

Intention and Challenge

To enable all children to achieve to their full potential and become life-long, independent learners through the advancement of LEARNING and THINKING SKILLS, beyond the limitations of background, cognitive level and age.

Modern Day Educational Challenges (Rabbi Rafi Feuerstein, 2014)

- Today’s current knowledge is tomorrow’s history
- Generation “Y” has information at its fingertips – the role of the teacher as conduit of information is obsolete
- Generation “Y” – a population of acquired ADD
- It is difficult to arouse interest in Generation “Y”



- The large proportion of learning difficulties stems from the fact that in the age of the smartphone, effort and process do not exist

The Feuerstein Method trains for the learning in the 21st Century by teaching systematic thinking and learning skills. Failure to do so creates students with “teaching difficulties” (not “learning difficulties”!)

Mission

The Feuerstein Institute is an international education, treatment and research centre with a twofold mission:

- To help schools worldwide prepare their students for the dynamic and ever-changing world
- To help children and adults overcome cognitive, emotional, psychological and social disabilities and claim their rightful place in society

It is accomplished through the Feuerstein Method, a unique educational system that uses mediation and specialised instruments to enhance learning potential. Clients gain the knowledge and tools to reach beyond their manifest abilities and achieve more than they have ever dreamed.

Shoresh ~ Prague 2016

While the Feuerstein Institute is based in Jerusalem, its summer school is nowadays hosted in a different European city as the suburb of Shoresh and indeed others areas within Israel, have for many years been too dangerous. Each summer the professors, trainers and researchers set up a variety of courses at various levels in order to advance the institute’s mission and Reuven Feuerstein’s vision.



About 300 attended the fortnight summer school, based in a Soviet era hotel west of Prague castle. Courses ran concurrently from 08:30 through to 17:30 each day. One other kiwi attended in one of the LPAD trainers’ courses. My tactile group comprised 20 educators from across the globe and included mainstream educators, special needs specialists, psychologists in private practice, teachers, system leaders and interestingly the institute’s CEO who will be in Auckland in early November this year.

Evenings provided opportunities for further seminars and workshops sharing practice from around the world. I contributed by sharing Havelock’s experience to date as there are few schools internationally working FIE across whole school mainstream populations.

Rest and Recreation

Following some “RnR” in a variety of European countries I also spent some time at the Nederland Feuerstein Centrum in Amsterdam observing and participating in several interactions with individuals of differing ages and genders which provided a great insight into what others are doing. Generally, the FIE still remains largely within the special needs context.

In total I spent 90 days overseas in 9 different countries and arrived back in the middle of the first week of the holidays ready for a holiday. I am now working to finalise data from our school in order to pull together the full sabbatical paper. I have also started working with a student each day using FIE T-K... great to see the concentration and effort away from other stimuli – progress is rapid and potential becoming very evident.

Thanks again for helping me look beyond our shores at a significant international pedagogical enterprise that might yet be explored by our own ministry and other colleagues in our efforts to help our youngsters achieve to their fullest potential.

Using the links from the school's web page to access the resources will help provide the requisite background should you start with little or no knowledge of the work Reuben Feuerstein started following WWII.

Special Programmes & Events

This page has been created as a place the school can place important information about special programmes or events. Links within items placed here are either external in a variety of formats or internal which are likely to be in .pdf format for easy downloading and printing if necessary. Overtime some forms will become digital or smart as our skill set catches up with the technology.

Feuerstein

New thinking about thinking

[Sunday - TVNZ Aug 2014 \(13:52\)](#)

Rabbi Ravi Feuerstein talks about the Feuerstein method with Kathryn Ryan

[Nine to Noon Radio NZ 5 August 2014](#)

The Wakamarina Feuerstein Pilot (2015) (pronounced *Foyer stine*)

[Parent Update Dec 2015](#)

Feuerstein Pilot Stage II (2016)

[BoT Update May 2016](#)

The Bigger Picture

[The Feuerstein Method - an overview](#) Ravi Feuerstein (pdf)

[Feuerstein International Video](#) May 2014

[Feuerstein Method - Step Forward](#) Jun 2013

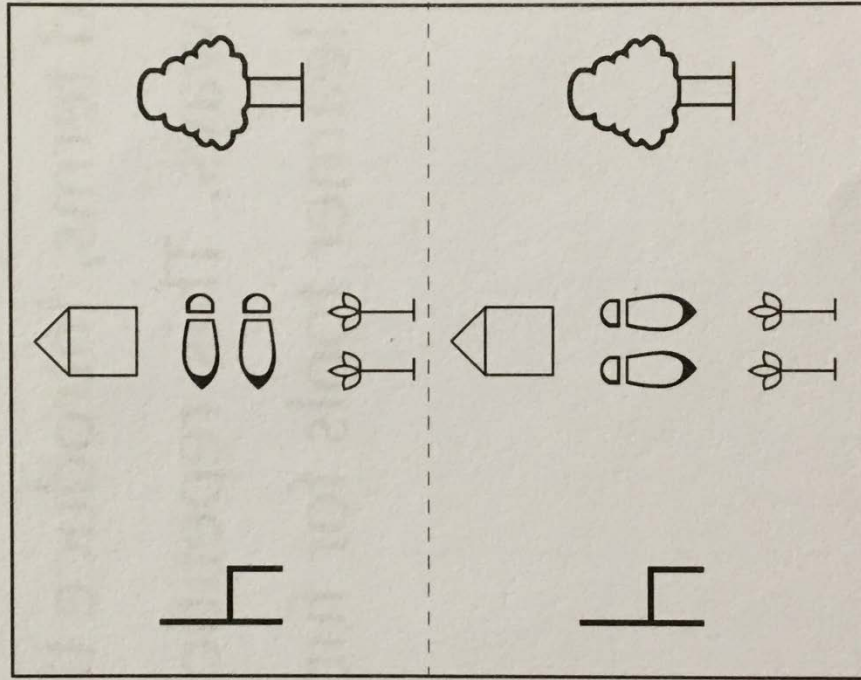
This YouTube movie shows the variety of the amazing work of the Feuerstein Institute, which gives hope to many people, and improves the lives and cognitive functioning of so many more.

The FIE Tactile-Kinesthetic Programme

[Feuerstein Tactile Instrumental Enrichment Programme](#) (Vimeo < 4 min)



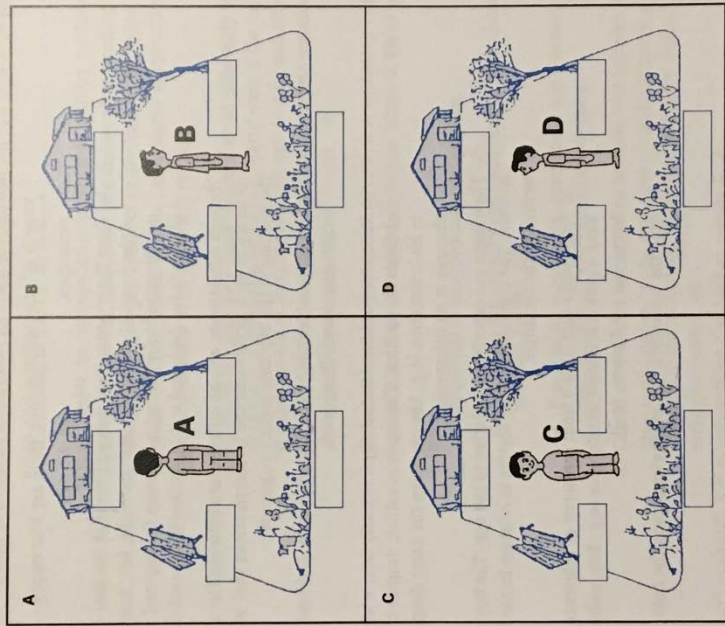
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© 1995 R. Feuerstein, HECRI, Jerusalem, HECRI, Orientation in Space I



IR SkyLight

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