Investigative, Intuitive Learning

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I. Main Principles

Early Childhood as Model

A child learns like an academic with constant, never tiring experimentation and trials; social interaction – plenty to recount, lots of questions, much to discuss – and develops in his or her own way pattern appreciation and rules.

Consequences for Kindergarten and School Practice

- Ensure a continuation of this learning approach
- Guarantee learning through experience and many, many examples
- Avoid instruction and the imposition of frameworks in order to enable learning to take place

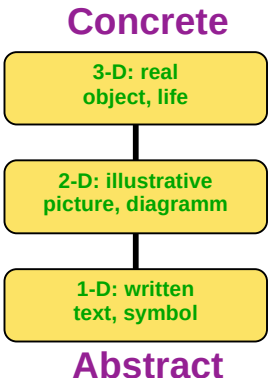
Neurodidactic Recommendations *

- Support curiosity and hunger for knowledge
- Maximise the enjoyment of discovery, research and experimenting
- Guarantee social interaction and time for reflection
- Secure learning through
  - o an individual's own "playful" creativity
  - o success with challenges
  - o a child's active part in the arrangements for the learning environment and approach
- minimise, or preferably, avoid the rote learning of facts

** my summary of the results of neurological research for didactic and learning*

The Three Learning Levels

The child uses three levels, namely 3-D (dimensional), 2-D and 1-D, on the journey from the concrete to the abstract.



It is not easy or generally impossible to determine the learning level of each child in a group. Therefore every activity is introduced at the 3-D level, so that every child can fully appreciate, grasp and actively take part in the activity. This is valid for the primary years as well as for at least the early secondary years.

Every activity has the potential to be followed at the 2-D and 1-D levels. However the decision at what level to operate remains with the child.

Interaction, Group-Synergy

Discussion, exchange of ideas and questions about the research are a natural part of *Investigative and Intuitive Learning* and are successfully promoted through challenges, research and creativity.

Learner Independence

Self-controlled learning

Each child is free to choose: content, learning approach, learning level and learning individually, in a pair or in a group.

Self-checking

This is achieved with logic, discussion, another viewpoint and 1-D ➔ 2-D ➔ 3-D.

Practice periods

Self-controlled practice is encouraged, as it has a far greater learning potential than imposed learning.

Maximising the thinking frequency within the learning process

This frequency e.g. spoken words per minute, is a good measure. It is used to evaluate approaches and activities. The higher the rate the better.

Success as a key factor

Discovery creates the highest level of learning success as it is intuitively experienced and enjoyed and stimulates curiosity and interest. Discovery is a fundamental feature of *Investigative and Intuitive Learning.*

Observation und Assessment

The system for observation and assessment and its recording is based on the `*can do*´ approach and builds on success. This compares very favourably with the conventional `*cannot do*´ and `*correction after failure*´ approach.

If conventional testing must take place

then the process is arranged so that all children have a positive test result over 80%. Hope, joy and a keenness to learn more are maintained. Test results under this level are avoided as the cumulative loss of motivation and interest is fundamentally caused by the accompanying `*cannot do feeling'*, disappointment and disillusionment. *(downward spiral)*

II. Developments

Mathematics (Secondary)

As head of the mathematics department in a comprehensive school in England I introduced the approach: *Investigative and Intuitive Learning* for 90% of lesson time for the first three secondary years. In order to ensure continuity across the department and to maintain quality I provided handbooks for my staff and all the necessary 3-D resources.

Progress example

In the national G.C.S.E. exams for 16 year olds 61% of the pupils achieved a grade A, B or C – the national average was 35%.

Effective Learning – Fundamental Practice

In order to successfully introduce and maintain *Investigative and Intuitive Learning,* it has been necessary to develop a basic framework for the practice.

- General learning situation: the role of children and adults – both within and outside the school, learning environment, school day, learning resources and references for the children
- *Expressive Arts* including art, craft, theatre, role playing
- *Storyboard* for illustration, organisation, planning
- Office system for the storage of 2-D and 3-D outputs, that each child adopts and develops
- Time-saving and effective observation and assessment recording system, that is also usable for the conventional requirements

Mathematics (Kindergarten, Primary)

3-D resources and countless activities and challenges for

- operations, pattern, structure for integers (whole numbers) including: quantity, counting, rules, numbers, estimation, mental arithmetic, the four rules (+, -, ×, ÷), introduction to algebra
- Data collection and probability
- Shape (partly)

In addition the secondary activities and challenges have been adapted for the Primary level and new activities for the Kindergarten level have been developed.

Progress example

By the age of six (some much earlier) all children can operate the four rules (+, -, ×, ÷). The method that each child uses in each case – mental, 1-D, 2-D, 3-D – remains entirely the choice of the child.

English as further Language

(Early start)

Audio sources (songs, joke dialogues) with illustrations, *Follow-the-lead* activities (art, English dances, Mathematics), *Game-Play* Communication activities (dynamic, content-free, creative), *Expressive Arts*, *Storyboard*, self-controlled learning to read

Progress example

- 30 spoken words per minute for each and every child during lesson time
- After 12 weeks of two 45 minute lessons per week: understanding of 500 spoken words in context, of which 400 can be read
- After one year: 1300+ spoken words in context
- After one year: many children are already able to communicate freely.
- The learning and content goals for the <u>whole</u> of the German primary school can be covered in under <u>one</u> school year.

N.B. Many aspects are also valid for the secondary level and adult education.

Learning to Read

Each child can learn to read quickly with the approach "*total text*", which ensures complete understanding and uses the concept „word pictures in context". The child can learn to read independently and is also supported in his or her own intuitive appreciation of the phonetic qualities of the English language.

Progress example

During the learning process a child successfully reads 30 – 60 words per minute. As a result the word pictures are rapidly formed in the brain. This is an enormous advantage for spelling once writing has begun.

Further Subjects

(Kindergarten, Primary)

Considerable foundations in history, technology, science and mother tongue

Distinguishing Features of this Approach

- *Investigative, Intuitive Learning*: We take the child's path: experimenting, research, discovery.
- builds on „can do", promotes innovation, creativity
- excitement and enjoyment
- imposed exercises and tasks, such as in textbooks, activity books, work sheets, learning software, DVD are not needed.
- suitable for mixed age and ability groups
- low investment and running costs

Syllabi and Standards

(*The proof of the pudding is in the eating*.)

Learning progress can easily exceed double the rate of progress resulting from instruction. As state and national syllabi and standards are based on the low progress rate of instruction they play no significant role. This liberation leads to even greater progress.

The Way Forward

Teachers need integrated solutions for *Investigative, Intuitive Learning*.
See www.absolutelyLEARNING.de

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