Dynamind an e-Teacher & e-Trainer

Interactive Distance Education

Using AI & Cloud

From i2K Solutions, Mumbai

World IT Forum 2012, New Delhi

Presented by Krishan Khanna, Chairman, i2K

April 17th . 18th 2012

Effective Learning

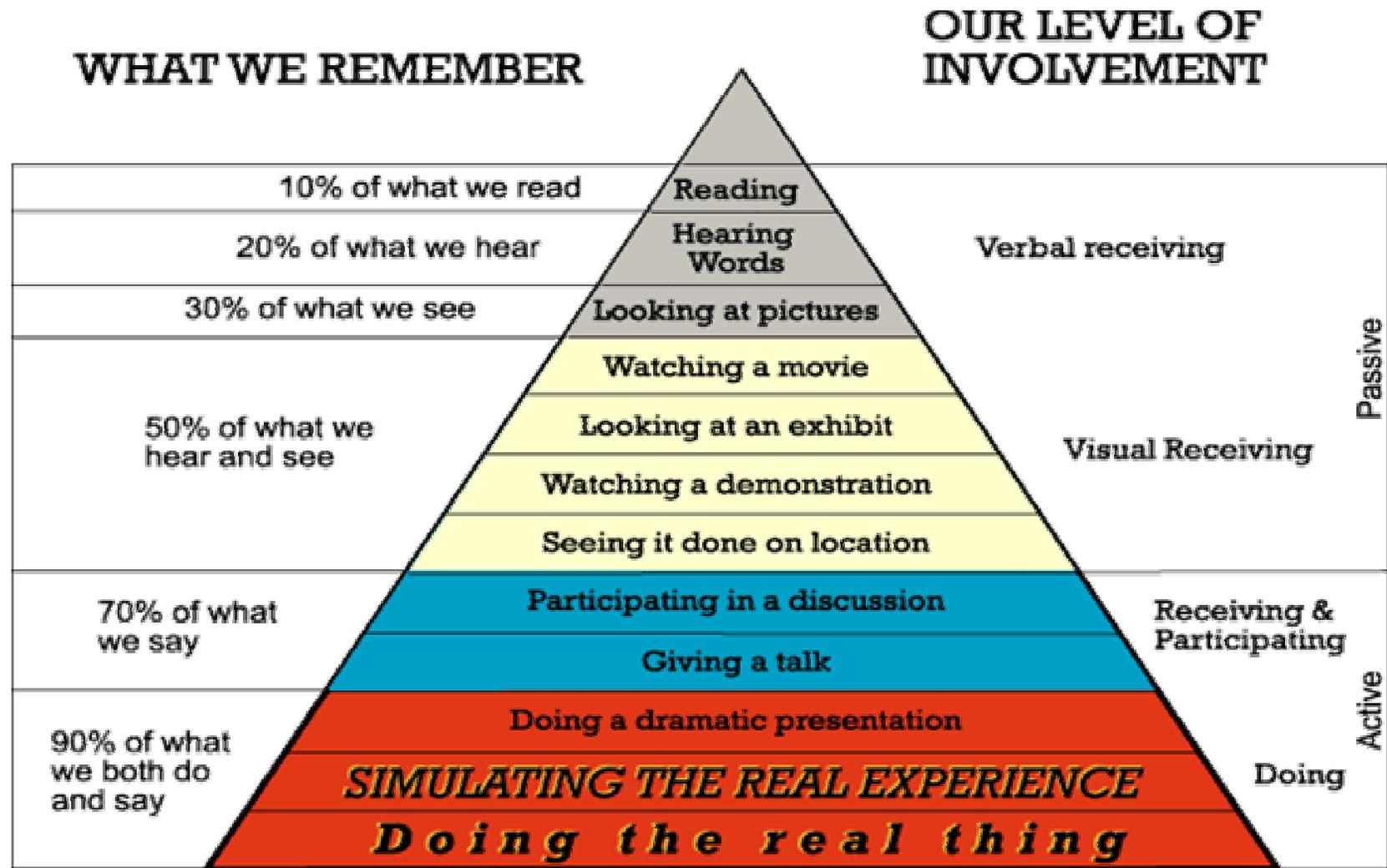˝ **Optimizing learning**

&

˝ **Maximizing potential**

of

˝ **each and every individual**

Some important educational theories

1. Edgar Dale's cone of learning
2. Bloom's Taxonomy
3. Howard Gardener's theory of Multiple Intelligence
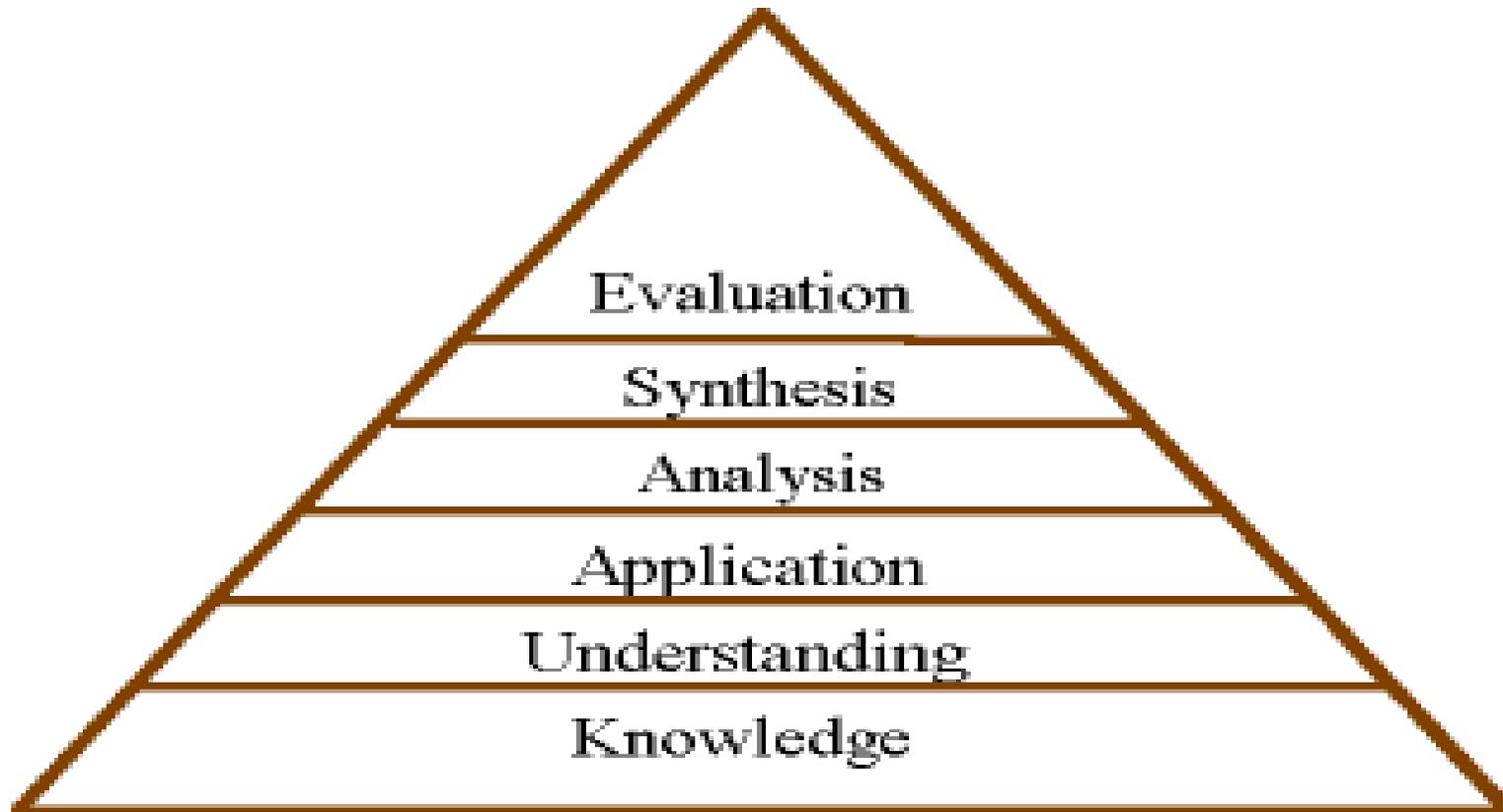4. Bloom's 2 sigma problem

Cone of learning

WHAT WE REMEMBER

OUR LEVEL OF INVOLVEMENT

What we remember	Cone	Level of involvement
10% of what we read	Reading	Verbal receiving (Passive)
20% of what we hear	Hearing Words	
30% of what we see	Looking at pictures	
50% of what we hear and see	Watching a movie	Visual Receiving (Passive)
	Looking at an exhibit	
	Watching a demonstration	
	Seeing it done on location	
70% of what we say	Participating in a discussion	Receiving & Participating (Active)
	Giving a talk	
90% of what we both do and say	Doing a dramatic presentation	Doing (Active)
	SIMULATING THE REAL EXPERIENCE	
	Doing the real thing	

Summary –

Degree of learning is directly proportional to level of engagement of learner

Bloom's Taxonomy

Evaluation
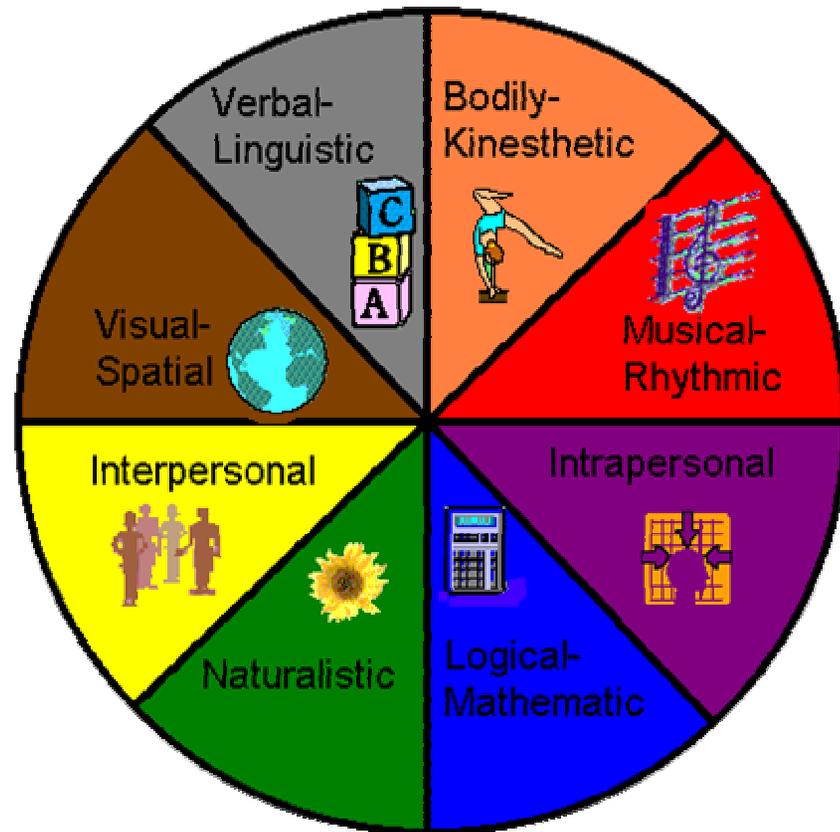Synthesis
Analysis
Application
Understanding
Knowledge

Summary –
Degree of learning is directly proportional to level of engagement of learner
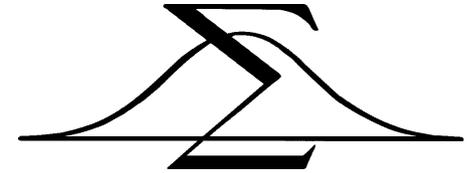
Howard Gardner Theory of Multiple Intelligence (MI)

- ″ Bodily-kinesthetic
- ″ Interpersonal
- ″ Verbal-linguistic
- ″ Logical-mathematical
- ″ Naturalistic
- ″ Intrapersonal
- ″ Visual-spatial
- ″ Musical

Summary –
Degree of learning is directly proportional to level of engagement of learner

Bloom's 2 sigma problem

A 50 percentile student will score above **98** percentile if provided with One-on-One training!

"The 2 Sigma Problem: The Search For Methods of Instruction as Effective as One-on-one Tutoring," by Benjamin S. Bloom, Educational Researcher, Vol. 13 (6), pp. 4-16, 1984.

Summary –
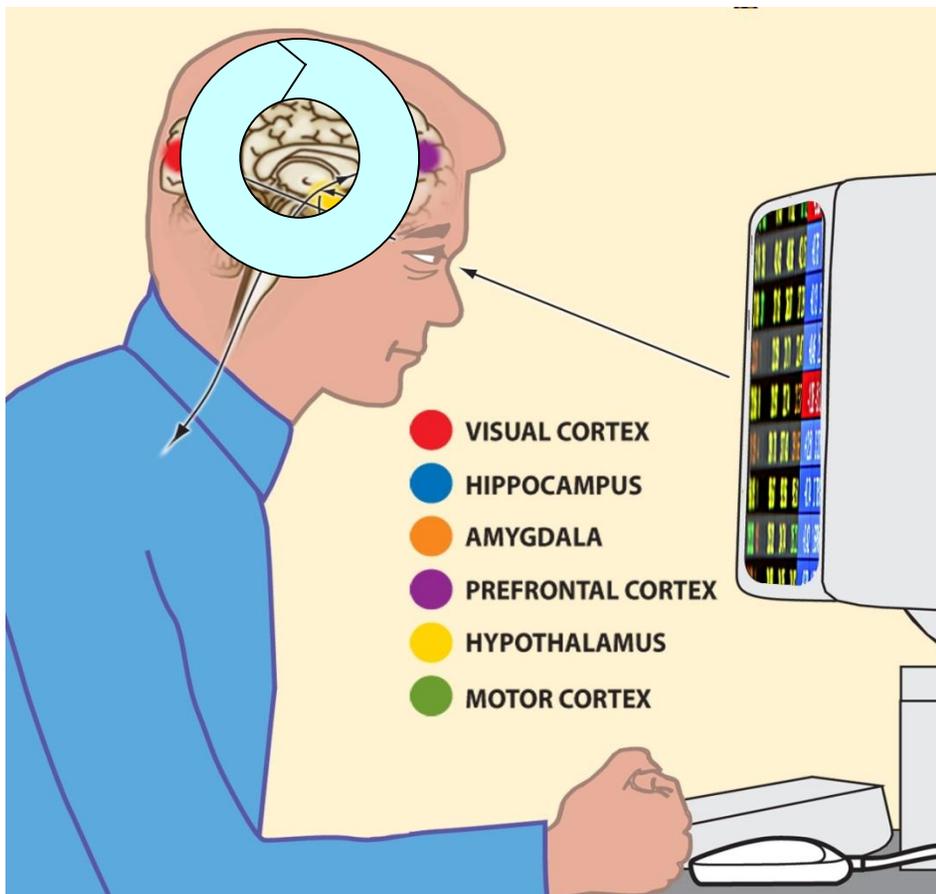Degree of learning is directly proportional to level of engagement of learner

All research in education & learning concludes

Degree of engagement

of learner is the key!

Degree of learner engagement

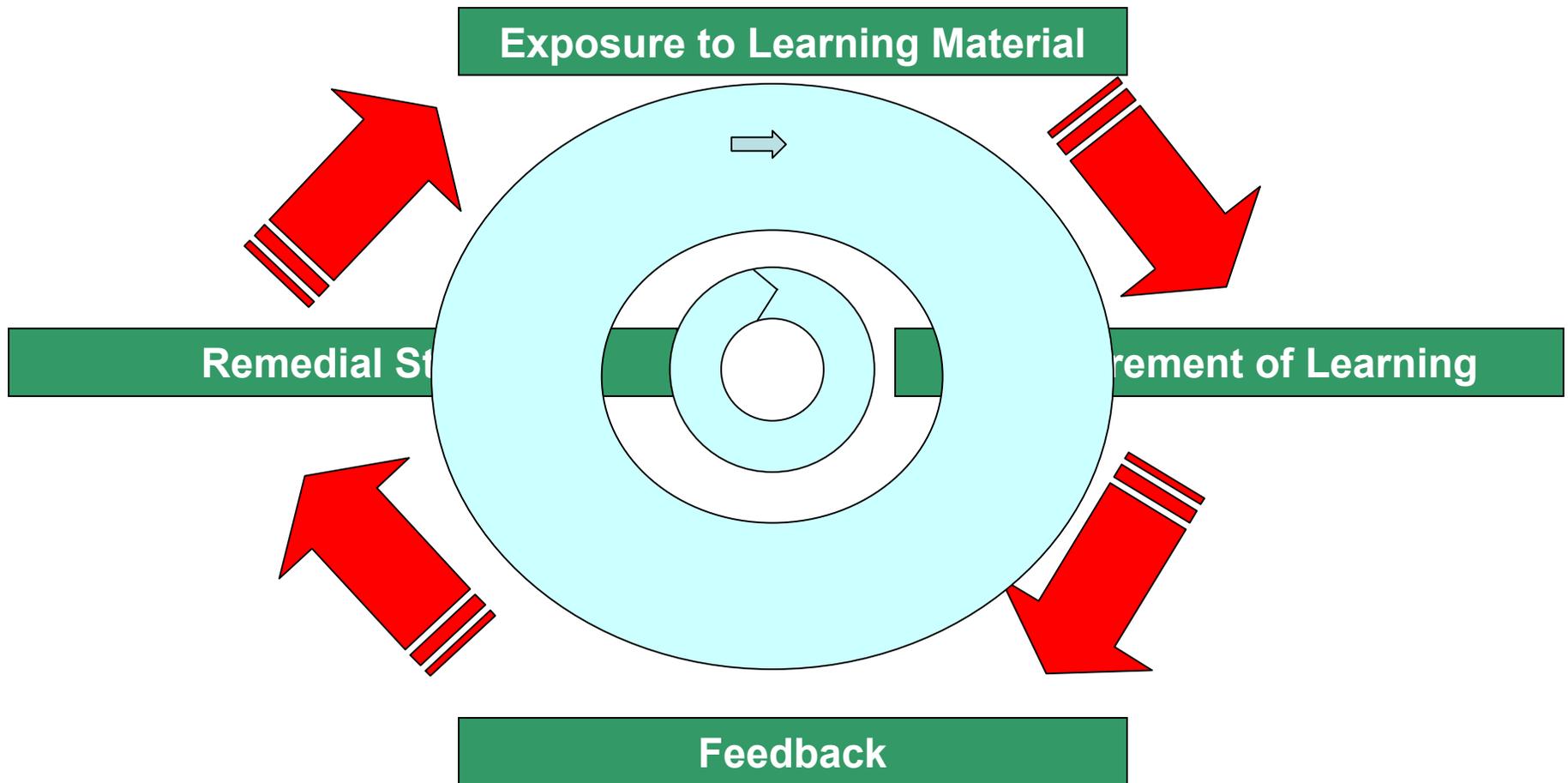## How does it create maximum impact?

Information processing in humans

- VISUAL CORTEX
- HIPPOCAMPUS
- AMYGDALA
- PREFRONTAL CORTEX
- HYPOTHALAMUS
- MOTOR CORTEX

˝ Visual
˝ Hippocampus
˝ Amygdala
˝ Prefrontal Cortex
˝ Hypothalamus
˝ Motor Cortex

Synapses strengthening and Myelin build up around neurons better performance of nerves

Engagement Framework
4 step cycle

Exposure to Learning Material

Remedial St... ... **...rement of Learning**

Feedback

Smaller the 4 step cycle better is the learning

TEAL at MIT

˝ Traditional large introductory lecture with smaller classes that emphasize hands-on, interactive, collaborative learning

˝ Failure rate has dropped by more than 50 percent

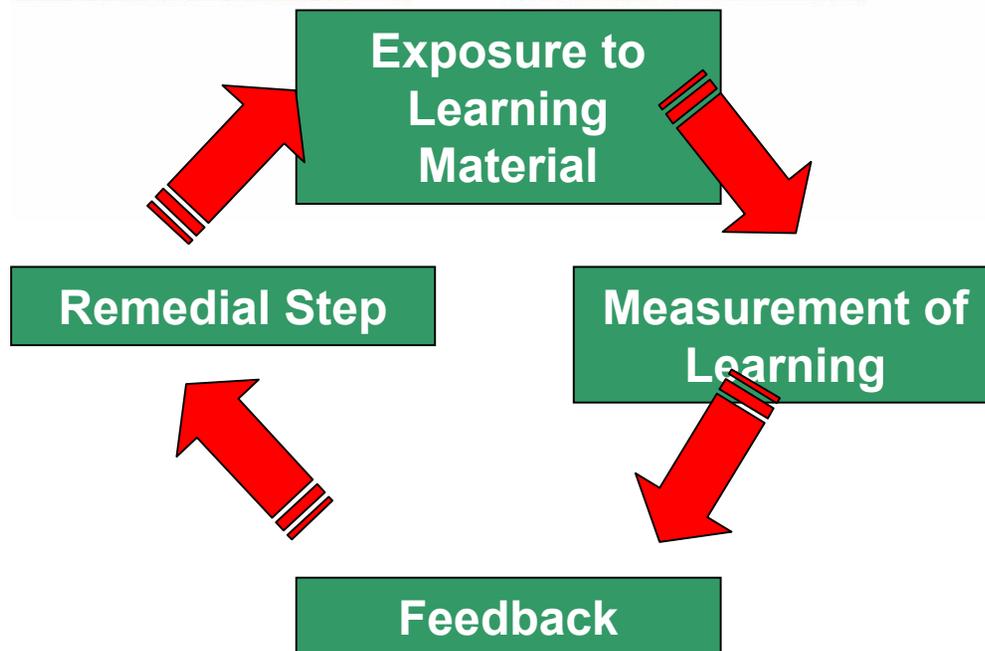˝ The two state-of-the-art TEAL classrooms alone cost $2.5 million

TEAL Strategy

TEAL
Technology-Enhanced Active Learning

TEAL student interaction

```
        ┌──────────────┐
   ┌───▶│ Exposure to  │───┐
   │    │  Learning    │   │
   │    │  Material    │   ▼
┌──┴──────┐      ┌──────────────┐
│Remedial │      │Measurement of│
│  Step   │◀──   │  Learning    │
└─────────┘   ┌──┴──────────────┘
     ▲        │
     │        ▼
     │  ┌──────────┐
     └──│ Feedback │
        └──────────┘
```

The two 3,000-square-foot TEAL classrooms each contain an instructor's workstation in the center of the room surrounded by 13 round tables, each seating nine students. Thirteen whiteboards and eight video projectors with screens dot the room's periphery.

Each table holds three groups of three. Groups are formed by mixing students of varying levels of knowledge in a single group to facilitate peer instruction.
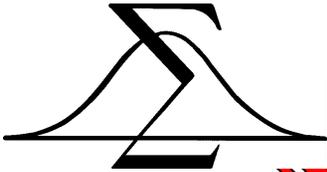
Each group uses a computer to view lecture slides and collect data from experiments.

One-to-One Tuition with Dynamind

Exposure to Learning Material
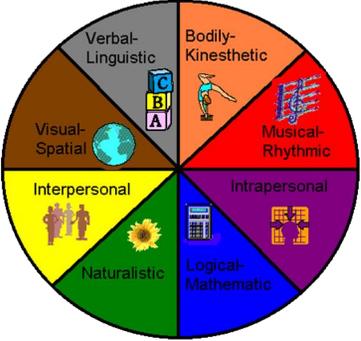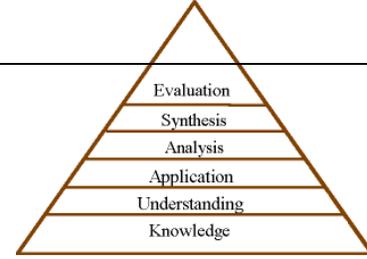
Text, Audio, Video or any kind of Multimedia

Remedial Step

One-to-One:
Based on strengths and weaknesses of each learner

Measurement of Learning

One-to-One:
Micro Measurement

dynamind
one-to-one mentoring in e-learning

Feedback

One-to-One:
Immediate and Continuous

Components of
Dynamind

˝ **e-Teacher / e-Trainer**

˝ **ZenMaster**

˝ **ZenStar**

e-Teacher *for* e-Learning

dynamind

one-to-one mentoring in e-learning

Features of Dynamind

- Learners . **StudyDesk**

- Trainer/Teacher . **WorkDesk**

- Administrator . **Admin Interface**

- Domain expert . **Content Interface**

Education & Training using web-based **100% interactive** Distance Education & Training **with one-to-one Mentoring** **For**

1. **Adult & Life Long Learning**
2. **Corporate Training**
3. **College & University Education**
4. **Vocational education & training**
5. **School Education**

e-Teacher

Powered by

dynamind
one-to-one mentoring in e-learning

e-Trainer

Typical e-Learning	**Passive Learning**	Reading a Demo Hearing a Demo Watching Movie Maximum 50% retention if all done simultaneously → **Gain of few**
Typical Class room	**Active Learning**	Participation in discussion Understanding & learning concepts. Doing anassignment, exams, quiz. Simulating experience. Doing the real thing → **Gain of some**
Typical 'Dynamind' Virtual Class room One e-Teacher for every learner	**Passive Learning + Active Learning + one-to-one mentoring**	All of the above + one-to-one mentoring for handholding and concentrating on weaknesses → **Gain of all**

e-Teacher

Powered by

dynamind
one-to-one mentoring in e-learning

e-Trainer

☞ Student-Centric system of teaching. No two people are the same, each person is different

☞ 100% interactive - 24x7x52 hrs per year

☞ Web based e-Teacher & e-Trainer

☞ Easily scalable to any limit

☞ For schools, colleges, vocational education, corporate training and adult & life-long learning

☞ Low cost High Quality

☞ Handles any type of multimedia e-content

☞ Uses the internet as a resource library

☞ Supports 11 Indian & 54 International languages

☞ Has Collective Intelligence features

About Dynamind

1. The platform is designed to **diagnose weaknesses**

2. **Suggest remedial steps** for each learner, student or a trainee

3. Provides adaptive learning experience **that is customized** as per each users' needs

4. Our **e-Teacher** is developed on unique bio-inspired computing paradigm

5. **Core architecture** resembles **the way information is processed** in the human brain

6. Uses patented algorithms

7. Using **Artificial Intelligence** and **Artificial Neural Networking**

8. Provides a **highly personalized and customized** learning experience

Corporate Training Example
web-based **100% interactive** Distance Education & Training

1. Most important resource is **Human Resource**
2. 5% to 10% of personnel budget used for **Corporate Training**
3. Nearly **US$ 1500** spent per person per year for **corporate training in the USA**
4. **Day-to-Day ROI** on e-Training / e-Teaching.
5. Daily exams, Daily assessments, Daily ranking, Daily results of strengths & weaknesses, **One-to-one Tuition for Quality**

First Offering with aasanka

(You need a PC or Laptop with Flash + internet with 256K bandwidth)

1. Basic Concepts in **Physics, Chemistry & Mathematics** for classes 11th . 12th

   3000 Basic Concepts

2. **IITJEE** (Tuition for entrance examinations)

   25,000 Q&A for basic concepts in PCM

3. **AIEEE** (Tuition for entrance examinations)

   15,000 Q&A for basic concepts in PCM

@ Rs. 15,000 per year / student / learner, for item 1, unlimited tuition

@ Rs. 25,000 per year / student / learner, for item 2 & 3, unlimited tuition

For further details visit www.i2k.in
All **31 Demo's** can be seen here

Contact

Krishan Khanna

Chairman

i2K Solutions

krishan@vsnl.com