



**“Class- Yes”**  
**“Teach! - Okay!”**



**QLN** quantum learning network™

**Narrative Chain**

# What is Effective Instruction?

**Practice by doing** 20

**Lecture** 50

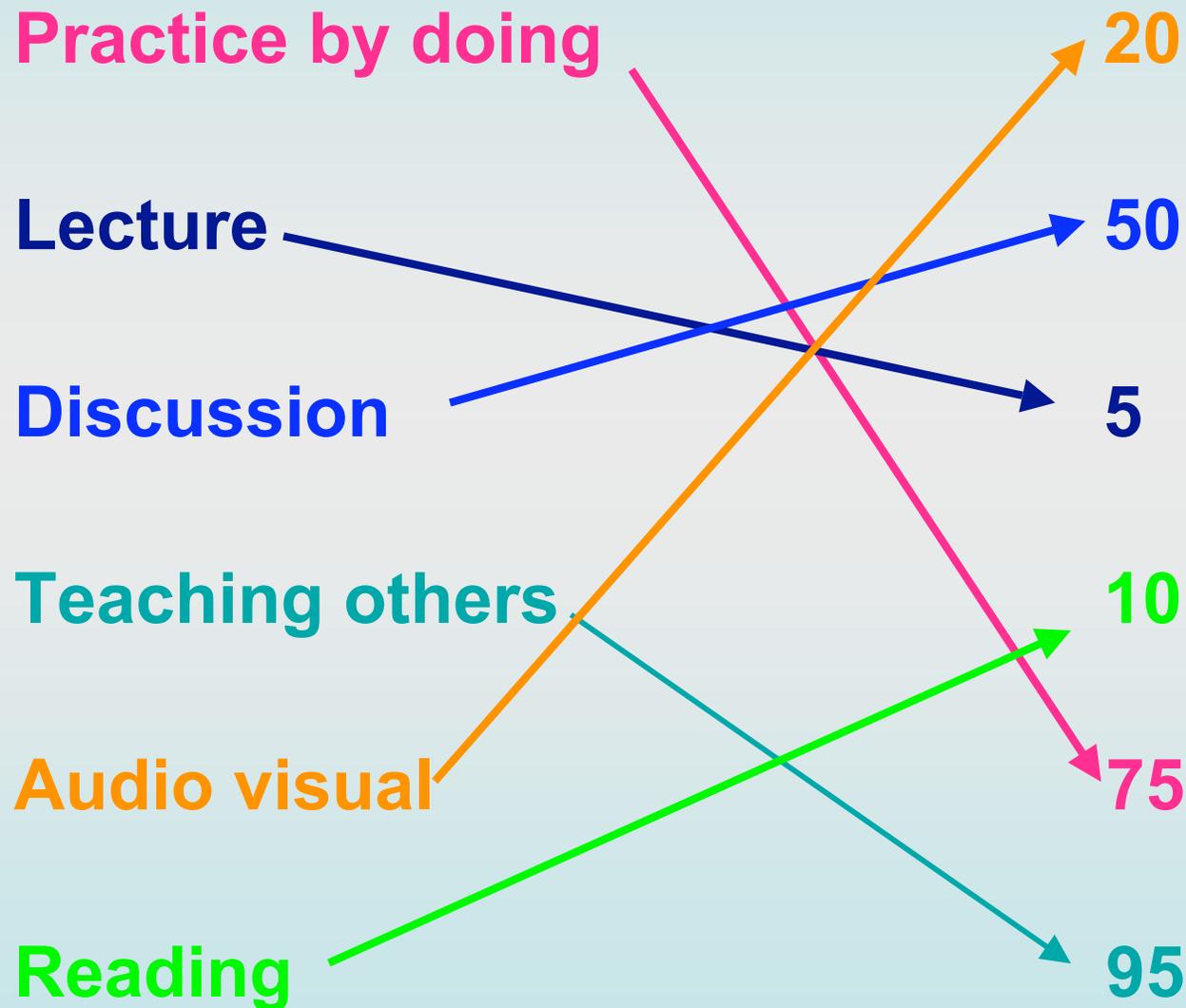
**Discussion** 5

**Teaching others** 10

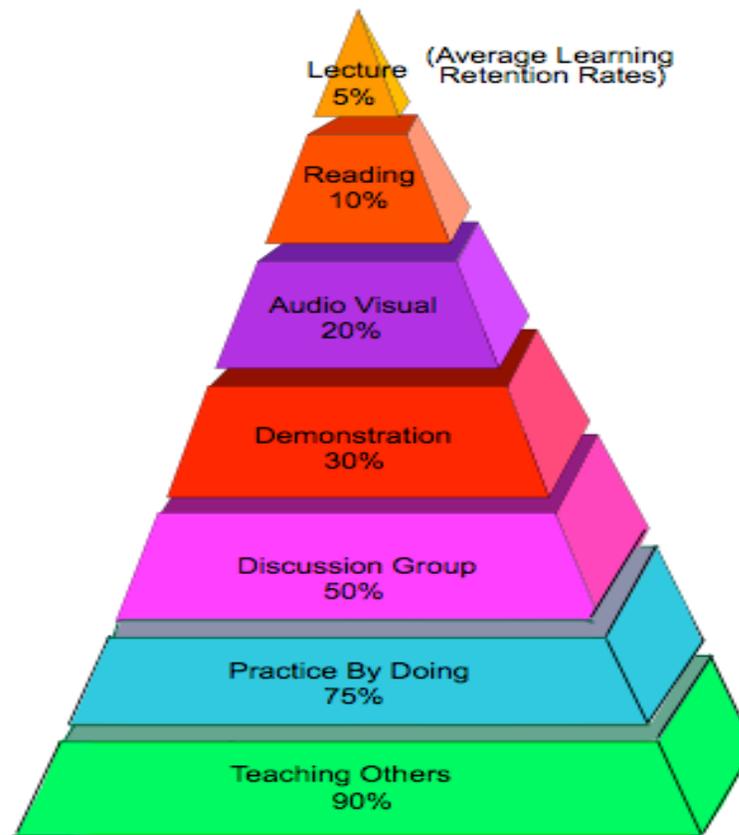
**Audio visual** 75

**Reading** 95

# What is Effective Instruction?



# Learning Pyramid



National Training Laboratories, Bethel, Maine



UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

## CENTER FOR TEACHING EXCELLENCE

**INSTRUCTIONAL METHODS: LECTURE (PART TWO OF TWO)** For what purposes is the lecture method appropriate? From the research directly evaluating lecturing, it is appropriate when the purpose is to: (1) Disseminate information; (2) Present material that is not available elsewhere; (3) Expose students to content in a brief time that might take them much longer to locate on their own; (4) Arouse students' interest in the subject, and (5) Teach students who are primarily auditory learners, (Bligh, 1972; Eble, 1983; Johnson, Johnson & Smith (1991); and Mckeachie, (1967).

For what purposes is the lecture method inappropriate? (1) When material is complex, detailed or abstract; (2) when students need to analyze, synthesize, or integrate the knowledge being studied; or (3) when long-term retention is desired, (Johnson, Johnson & Smith, 1991).

### Research has found a number of problems with lecturing:

- (Students' **attention to what the instructor is saying decreases as the lecture proceeds**. A typical pattern develops in students attending lectures: five minutes for settling in; five to ten minutes of readily assimilating material; confusion and/or boredom with assimilation for remainder of lecture; and finally, a rebound of attention towards the end of the lecture (Penner, 1984).
- (It takes an educated, intelligent **Person oriented toward auditory learning to benefit from listening to lectures** (Verner & Dickinson, 1967). When you lecture you assume that all students learn auditorially, have high working memory capacity, have all the required prior knowledge, have good note taking strategies and skills, and are not susceptible to information processing overload, (Johnson, Johnson & Smith, 1991).
- (**It tends to promote only lower-level learning of factual information** (Bligh 1972, Mckeachie and Kulik, 1975; Kulik and Kulik, 1984). Lectures and discussions did not differ significantly on lower-level learning (e.g. facts and principles), but discussion appeared superior in developing higher-level problem-solving capabilities and positive attitudes toward the course (Costin, 1972). They found lecture to be superior to discussion for promoting factual learning, but discussion was found to be superior to lecture for promoting higher-level reasoning, positive attitudes, and motivation to learn, Johnson, Johnson & Smith (1991).
- (**It is based on the assumptions that all students need the same information, presented orally, resented at the same pace, without dialogue with the presenter, and in an impersonal way**, Johnson, Johnson & Smith (1991). In addition, large numbers of classmates inhibit question asking. Research done by Stones in 1970 found that 60 percent of 1000 students surveyed stated that the presence of a large number of classmates would deter them from asking questions, even if encouraged to do so.
- (**Most students tend not to like lecture** (Stin's (1972) review of literature indicates that students like the course and subject area better when they learn in discussion groups than when they learn by listening to lectures, However, more recent research indicates that lecture is preferred by many students (Knapper & Cropley, 1991). While 38% of students prefer lecture, the remaining 62% prefer other alternative cooperative methods, Grasha (1994); MoKeachie (1986).
- **Other obstacles: preoccupation** with other classes or events earlier in day; emotional moods that block learning and cognitive processing (e.g. **frustration** with lack of understanding in course); **disinterest** by students who go to sleep or turn on recorders; **feelings of isolation and alienation** that contributes to feelings that no one cares about the student or their academic progress; and **entertaining lectures that misrepresent the complexity of material being presented** (Johnson, Johnson & Smith, 1991)

**Alternative teaching strategies have to be interwoven with lecturing if the lecture method is to be effective.** Lectures can be made cooperative. Informal cooperative learning groups is one way to interweave lecturing with a more active approach to learning, Johnson, Johnson & Smith (1991).



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### COOPERATIVE METHODS: PEER LEARNING AND TEACHING

**"What is the most effective method of teaching?" "Students teaching students"**. There is a wealth of evidence that peer teaching is extremely effective for a wide range of goals, content and students of different levels and personalities (Johnson & Johnson (1974); Johnson, Maruyama, Johnson, Nelson & Skon, (1981); Dansereau, (1983); Hall (1988); and Johnson, Johnson & Smith (1991).

**The superiority of student-led discussions was particularly marked for students below the median in ability**, Beach (1960, 1968). Richard H. Hall researched the role of individual differences in the cooperative learning of technical material and found the studying in cooperative dyads proved more effective than studying alone (1988).

**"Pay to be a tutor, not to be tutored"**. Results of studies done by Arnis (1983) show that **teaching resulted in better learning than being taught**. Bargh and Schul (1980) also showed that there was a big gain in retention being attributable to deeper studying of material when preparing to teach. Which correlates to learning theories of learning and memory: **preparing to teach and teaching involved active thought about material, analysis and selection of main ideas, and processing the concepts into one's own thoughts and words.**

Other research showed that **cooperative learning was consistently more effective than individual learning** and that field independent and highly verbal partners facilitated the learning of field dependent and moderate verbal ability partners, with no adverse consequences to themselves, Dansereau (1983).

In addition, the National Teaching and Learning Forum (1992) reports that **peer group teaching encourages student-student interaction and participation**. As a consequence a **greater diversity of ideas emerges** and students become better acquainted with one another, which in turn, enhances participation in discussion.



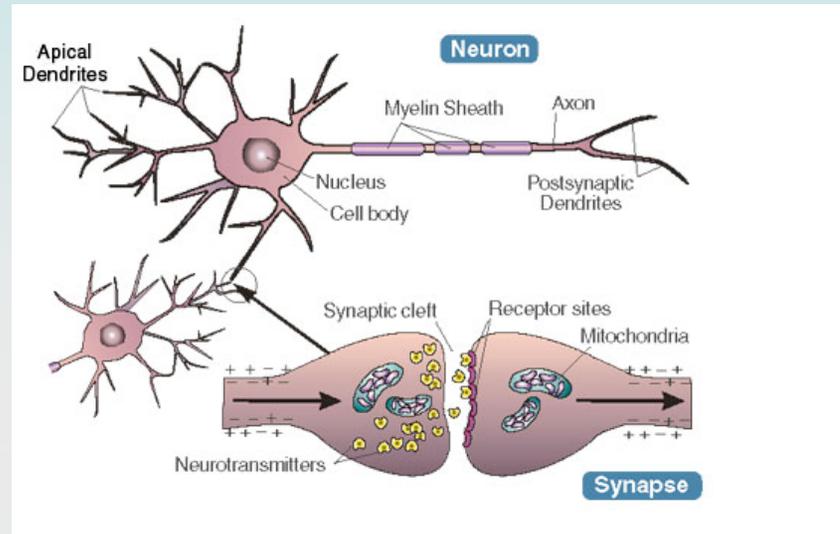
**“Class- Yes”**  
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**Chris Biffle**

[http://www.teachertube.com/view\\_video.php?viewkey=3104be49d0b45cbb534b](http://www.teachertube.com/view_video.php?viewkey=3104be49d0b45cbb534b)

<http://www.teachertube.com/v.php?viewkey=27cd1529e4a94605bf1a>

# Give the Brain What it Wants!!!



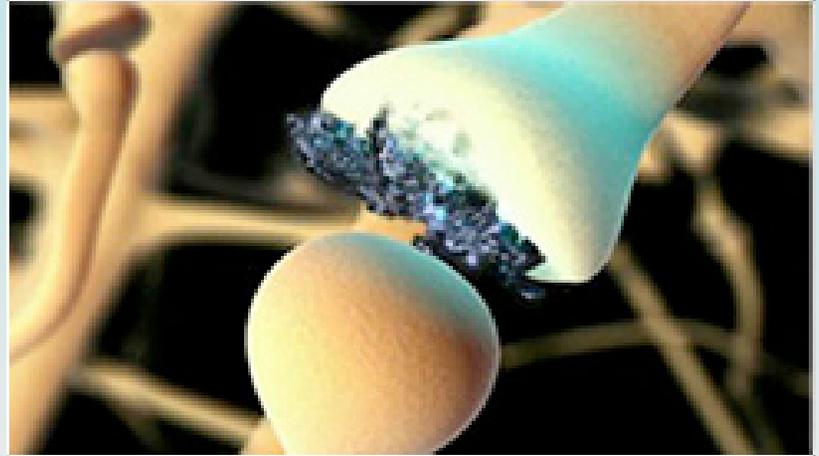
Our **Auditory Track** brings in **20,000 BPS** (bits per second).

Our **Tactile System** can unify and respond to **30 million BPS**.

Our **Visual System** can handle up to **100 million BPS!**

**Typical classroom provides less than 1% of this capacity.**

# Retaining Information



- “Each time a particular pattern of neurons ‘fires,’ it becomes that much easier for the same pathway to be activated again” (Restak, *Receptors*, 1995)
- The more modalities we can tap at the same time, the more vivid, meaningful and permanent the learning (DePorter, *Quantum Teaching*, 1999).



# Narrative Chain



VAK

AVK



VKA

KVA



KAV

AKV

# VAK Inventories & Info

- [http://www.calstatela.edu/faculty/msabet/.../assets/learningstyles/lis\\_teach.doc](http://www.calstatela.edu/faculty/msabet/.../assets/learningstyles/lis_teach.doc)
- <http://www.businessballs.com/vaklearningstylestest.htm>
- <http://www.metu.edu.tr/~suzanoni/Learning%20styles%20inventories.htm>
- [https://www.nacada.ksu.edu/Clearinghouse/Links/learning\\_styles.htm](https://www.nacada.ksu.edu/Clearinghouse/Links/learning_styles.htm)



**Bring Learning to  
Life!!!**

**Ask yourself:**

- How much am I talking during class?
- How much opportunity do my students have to be the “teacher”?
- How much **VISUAL**, **AUDITORY**, **KINESTHETIC** learning is happening?
- <http://www.broward.k12.fl.us/esol/Eng/BestPractices/index.html>