

# Math, Reading, and Writing

**Math** – All Tutoring is customized to student needs. We can accommodate Pre-Kindergarten to high level college courses. Because every student has different needs, we customize each tutoring session to help each student understand math and the concepts needing mastery. We find that with our methods, working one on one, students are able to grasp the “ideas” behind what is being taught and “picture” the problems they are trying to solve. This method of “visualization” leads to better comprehension and understanding.

Our math curriculum is based on the Hawaii Department of Education Content, Performance Standards and Benchmarks. We also reference the National Council of Teachers of Mathematics principals, standards and curriculum focal points along with the work of Nancy Bell and Kimberly Tuley. Students use multi-sensory learning techniques to master mathematics concepts. During each tutoring session the tutor is focused on engaging the student, keeping students motivated and on task. The use of manipulatives and constant positive feedback are crucial to our process of teaching mathematics. A program of “paying” students play money is added to motivate students. The play money can be redeemed for small prizes to create a reward system that motivates students to learn, introduces the concept of saving, and makes learning “fun”.

The basis of our mathematics program is described in Bell and Tuley’s text, On Cloud Nine, “Mathematics is cognitive processing, thinking, that requires the dual coding of imagery and language. Imagery is fundamental to the process of thinking with numbers. Albert Einstein used imagery as the base for his mental processing and problem solving.” Einstein sums up our approach to math when he said “If I can’t picture it, I can’t understand it.”

The effectiveness of visualization in regards to math was first introduced in the journal Nature, in the year 1967. This work was completed by two Stanford University psychologists, Robert Moyer and Thomas Landauer who provided evidence of how the brain compartmentalizes math as pictures. More recently, Stanislas Dehaene and Laurent Cohen, French neurologists, have shown “how the brain processes numbers and does simple arithmetic through imagery.”

Manipulatives have been used for years in teaching math (Stern 1971). However, children have often experienced success with manipulatives, but failure with calculation and word problems when the manipulatives are removed. In our clinical experience we have found that imagery is the link to long term cognition without the use of manipulatives. We teach students to use manipulatives, but then transfer that understanding to visualization.

**Reading & Writing-** All Tutoring is customized to student needs. Our reading & writing program is based on breaking words down in order to gain a better understanding of how the letters work together to form words. To accomplish these goals and master reading, we use a multisensory approach. A magnetic phonics board allows the student to manipulate the magnetic pieces. The magnetic pieces are moved by the student while they verbalize the sound changes. Our multisensory approach allows the student to see sound changes in a word, make sound changes, and hear sound changes in a word. This multi-sensory approach when used with one on one tutoring leads to better understanding and independence in reading and writing.

Each tutoring session is individualized so that students can focus and master areas of individual need. We find that with one on one tutoring using our methods students are able to break down and “decipher the code” of how words are spelled, written and read. Clinical results show students are able to move several grade levels in 4-6 weeks.

Education Therapy teaches reading based on Hawaii Department of Education Content, Performance Standards and Benchmarks, and the National Reading Panel’s essential elements of reading. Our reading program focuses on a one on one approach with teacher and student using a phonics board to assist in our multi-sensory approach. Tutor and student sit facing each other and the teaching process is interactive. The tutor is focused on prompting the student and constant positive feedback is crucial to the process. A program of “paying” students play money is added to motivate students. The play money can be redeemed for small prizes to add create a reward system that motivates students to learn and makes learning “fun”.

The phonics board we use comes from the F.A.S.T. Reading System which combines the best of systematic phonics, auditory processing, and literature-based instruction to create a streamlined, multi-sensory program that includes immediate reading application with high interest, phonetically controlled books. The F.A.S.T. Reading System has been successfully implemented at schools nationwide.

Our methods for teaching reading are based on Diane McGuinness’ work, Why Our Children Can’t Read., Jeanne Chall’s Learning to Read: the Great Debate. and Marilyn Jager Adams’ Beginning to Read.

**“From research in the classroom and the clinic, we have discovered that when the sequence of reading and spelling instruction is compatible with the logic of the alphabet code *and* with the child’s linguistic and logical development, learning to read and spell proceeds rapidly and smoothly for all**

***children*** and is equally effective for poor readers of all ages (Adams, Lindamood, McGuinness C., Alexander, Fletcher, Juel, McGuinness, D., Williams, J.P.).

Research is now showing that phoneme awareness must be taught first in the teaching of reading; the child needs to be trained to hear the order of sounds within syllables and words, and then taught how to spell these sounds.

Marilyn Adams evaluated the research on phonics and reading as well as the phonics instructional programs of the 1990's. **“The developers of phonics curricula have never analyzed the structure of the spelling code, so that phonics programs are not only seriously impoverished but chaotic...phonics logic is backwards and the code cannot be categorized with this logic...One traditional way to teach phonics is to teach ‘sounds’. The other way, which doesn't have a name, teaches the ‘sounds of language’ and how these sounds are mapped to the letters.** This is the methodology of our clinic.

We have taken the approaches of Lindamood- Bell, Orton-Gillingham, F.A.S.T. (Steve Tattum of Denver Academy), Allographs, and developed our own highly effective program for low-performing students.

We have adopted Dianne McGuinness' major components for a good beginning reading program:

1. Phoneme awareness (training in awareness of phonemes in speech and the ability to segment and blend isolated phonemes in words).
2. Alphabet principle (teach the alphabet code the way it was written; from sound to print).
3. Sound to symbol association (teach how to connect phonemes in words to individual letters and letter combinations).
4. Logic (instruction is sequenced in a logical order from simple to complex and conforms to the child's developmental level. It includes the entire spelling code, not just a fraction of it).
5. Curriculum (materials cover all possible skill areas; phoneme analysis, segmenting, blending, reading, writing, spelling. Materials are related *in content*).

Reading and spelling are reversible.

6. Pedagogic style (we teach by exposure and example, using brief, clear multisensory explanations and practice. Child is actively problem solving, not passive. Error correcting is both positive and immediate).

7. Fail-safe (we constantly monitor and document the child's reading process and performance).