

Shared Identities: Our Interweaving Threads

Teach to reach: Multi-sensory interactive teaching

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Reference data:

Cope, K., & Cope, S. (2009). Teach to reach: Multi-sensory interactive teaching. In A. M. Stoke (Ed.), *JALT2008 Conference Proceedings*. Tokyo: JALT.

The following article draws upon the experience of an educational foundation in Thailand, the theoretical underpinnings of its educational methodology, and evolving practice in teaching English to 700 primary grade students over a 3-year period. The Foundation has woven together a number of innovative educational techniques around a psychological-pedagogical base, to accelerate learning in government schools. Pilot programmes in two schools produced score increases of more than 30% for a single class group, with children who had not previously had exposure to interactive teaching methods. The article addresses retention and storage of information, responding to preferred learning styles, brain-based learning, interactive teaching, and gender issues.

Where interactive teaching begins

How long on average do your junior students sit and listen to you? Whatever the answer is, it's probably too long. A formula of the age of the student plus one, as the number of minutes that a grade 1 to 6 student can concentrate, is a good guide. Our experience at Phuket Has Been Good To Us Foundation has shown that using the same material, but changing the method of presentation every 8 or 10 minutes, is one of many methods that can help accelerate the learning of English as a foreign language.



Context: Phuket Has Been Good To Us Foundation

The Foundation began in the aftermath of the 2004 tsunami. Its aim was to bring about sustainable change and development through an improved standard of English language education in government schools, where Western teaching methods replaced rote memorisation. The Foundation's Director of Education sought to bring excellent and cutting edge teaching on a parallel with, or better than, that available in International Schools, to children from families with no educational choice, who were unable to buy an education for their children.

The Foundation has been teaching an English programme to 700 primary grade students over a 3-year period. The children receive all their English language tuition through the programme, giving them 3-4 hours a week in class sizes of less than 25 students. Oral English tests were developed in-house to measure students' progress. At the end of each semester the tests in two pilot schools produced average score increases of more than 30% for classes of grade 1 students who had not been taught English before in elementary school.

Teaching students English for the first time has provided an opportunity to establish and consolidate a learning culture much different from that generated in the traditional Thai classroom. Students on the English programme have demonstrated a keenness to come to the English classroom (during lesson time, as well as in their free time) and a desire and a confidence to use the language, which is particularly noticeable in low ability students. They have frequently sought help with language *imported* from other settings, such as movies or the family business, and have been active

listeners, taking in the language *osmotically* from being in an English environment.

Experimenting with other research and adopting new teaching methods has brought evolution and improvement in teaching practice within this outward-looking, yet culturally sensitive organisation. The Foundation works to the Thai Education Department's curriculum.

Sharing teaching methodology with Thai teachers of English, through a training course and post-course follow-up, is now passing on the new teaching methods at minimal cost. The first course attracted 19 Thai-speaking English teachers from three local government schools and the child development centre (kindergarten) which feeds one of the pilot schools. It was funded by two Rotary Clubs and Rotary International. The course structure combines workshops with classroom-based sessions using current students from the pilot schools. The trainees observe Foundation teachers at stage 1, co-teach with them in stage 2, and teach independently under their observation for stage 3. There is feedback and discussion at each stage, with telephone support during the month after the course to address implementation and practice of the new methods. Trainees are encouraged to share what they have learned with colleagues back in the workplace and to promote opportunities to apply the methodology in other subject areas.

How we remember

If we wanted to retrieve a telephone number from a computer it would be very simple and straightforward, as the

computer stores information in very separate categories that are independent of each other. Storing information in our brain is much more complex. For example, if we are trying to remember a phone number we may almost unconsciously visualize the person's face or imagine the home they live in. Information stored in our brain is interconnected with emotions and visual memories.

Our experience suggests that images or pictures help children to take the short-term memory of something and commit it to longer term memory. It is essential that teaching something like numbers and alphabet letters is done by saying the name and showing the image.

When we hear the tune of a song that we know, we sing the words inside our heads; we can't stop ourselves from doing it because the tune and the words were learned together. If we learn a mime together with a spoken word, when we do the mime we will *hear* the spoken word in our heads. We have found this silent repetition to be a powerful learning tool.

Learning is a response to environmental, social, emotional and physical stimuli, a way of receiving and processing new information. It is generally accepted that not all children learn in the same way.

Learning styles

We have attempted to put some simple learning style theory into practice, relying mostly on the work of Dunn and Dunn's Visual, Auditory and Kinesthetic (VAK) approach (1978). They suggested that students score higher in tests, have better attitudes towards learning, and learn more

efficiently if they are taught in ways to which they can more easily relate. Although learning styles will inevitably differ among students in the classroom, Dunn and Dunn say that teachers should try to make changes in their classroom that will be beneficial to every learning style. Some of these changes include room redesign.

The models we relied on are currently being challenged by some neuroscientists. Whilst we wait for the neuroscientists to complete their research and define the perfect learning system we can continue to choose to move forward using models like VAK, along with our own common sense. We can also comfort ourselves with the comments of John Geake, Professor of Education at Oxford Brookes University UK, and a research collaborator at the Centre for Functional Magnetic Resonance Imaging of the Brain, who said: "We need to take extreme care when moving from the lab to the classroom. We do remember things visually and aurally, but information isn't defined by how it was received" (Revell, 2005).

We believe there is no right or wrong learning style. In our experience most children show a preference for one of the basic learning styles: visual, auditory, kinesthetic, or manipulative. Within any group of children there will be many different preferred learning style types (Council of Europe, 2009). We have observed that children are able to use more than one sense at a time to learn.

Visual learners learn by watching. They call up images from the past when trying to remember. They picture the way things look in their heads.

Auditory learners tend to spell phonetically. They can sometimes have trouble reading, because they don't visualize

well. These students learn by listening and remember facts when they are presented in the form of a poem, song, or melody.

Kinesthetic/manipulative learners learn best through movement and manipulation. They like to find out how things work and are often successful in the practical arts, such as carpentry or design. These students may have difficulty learning in a very traditional setting.

David Sousa (Tileston, 2005) asserts the proportion of students who learn best by listening can be as low as 20%, yet Binkley (Greene, 2008) reported that 80% of instruction in the classroom is auditory. Knowing, and working to, students' preferred learning styles can help maintain their interest in new material. Trying different methods of learning may prevent the children from getting frustrated and feeling they are not making good progress. Trying different learning styles can help children feel better about themselves and reassure them that they are making progress.

Synapses

Synapses are tiny gaps which nerve impulses are transmitted through; they act like signposts to a destination (Facey et. al, 2009). Depending on exposure to information and the frequency, we can construct superhighways of knowledge or tiny trickles that may disappear at any time.

The word *synapse* was first used in a book by Michael Foster about the central nervous system in 1897. The word *synapse* comes from Greek: *syn* meaning *together* and *haptain* meaning to *clasp*. This is an early recognition of how important synapses are to the brain in organizing information

and memory recall. Synapses are vital to the way the human brain works: Learning and memory formation are linked to specific changes in brain activity. Over a century later leading neuroscientist, Le Doux (2003) said: "You are your synapses. They are who you are."

In the field of child development, synapse stimulation is seen as key to nurturing brain growth and learning potential. According to Karen Stephens, of Child Care Exchange, "Children need activity-based, hands-on, sensory experiences to build the brain's learning pathways." She adds "the brain is geared to recognize and make sense of patterns. Complimentary experiences build connections. The more ways children experience information, the more efficiently they construct knowledge and concepts. This establishes learning pathways so children can access stored memory, thereby increasing odds of repeated success" (Neugebauer, 2006).

Creating *complimentary experiences* by integrating *associated* material should build on existing knowledge and is more likely to lead to information being stored in the long-term memory. The alphabet mime described in the following section provides several examples of integrating such associated material.

Anyone who has ever amused themselves by reading those messages that are misspelled or with letters missing will know we are capable of recognizing a word when only seeing part of it. The synapses are like little signposts. We remember some things in patterns, by sorting or clasping information together.

The programme teaches English by emphasizing the meaningful patterns and associations between letters, words,

objects, or items in a sentence and the context within which that sentence is used. Seeing one or more of these things will instantly remind the student of other things that it can be linked with.

The alphabet mime

The benefits of sign language and mime in communicating with babies and young children are well documented, and an increasing number of young parents are using sign language to communicate with babies from the age of 6 months. The Foundation's Director of Education used baby signing in helping to raise her (now multi-lingual) great niece in Taiwan for the first 2 ½ years of her life. My Smart Hands, an organization dedicated to the development and use of baby signing, suggests that "Sign language increases overall brain activity, stimulating the formation of more synapses, or connections, among brain cells" (Berg (2008)).

We also believe that mime might aid the creation of synapses because it may provide an extra way to "fire" the brain's memory cells. Mime is also a useful way to encourage *silent repetition* – saying something "inside your head." The programme has been teaching the alphabet using mime along with phonic pronunciation. Also, rather than wait until all students understand the relation of all the letters to each other, we move onto simple cvc (consonant, vowel, consonant) words early on. We believe this illustrates to a child the purpose of the alphabet. The 26 building blocks we call the alphabet can seem to be completely incomprehensible to a child. Each block has a unique sound by itself and some of their sounds change when arranged next to other blocks. The information can appear at first to be unpredictable.

One of the accepted methods of teaching the alphabet involves the teacher pointing to a letter while saying the name and the sound it makes at the beginning of a word. We call this the initial sound; lots of letters are true to their unique sound when they are at the beginning of a word. For example, a teacher would say "A /a/ apple" – the name, the sound, and a word – this is decoding the alphabet in three ways.

The Foundation teaches the traditional three elements simultaneously; the shape, the name, and phonic sound of the letter. However, the unchanging mime underpins and connects those three elements; it is the one constant in uniting the information together. The mime cements a meaningful link between information which is sometimes confusing. Children often learn the movement before either the sound or the letter shape. The mime is an acceptable answer when students are asked "What letter is this?"

Using a mime for each initial letter of a word enables the student to spell some cvc words by mime and the great benefit of being able to silently mime the whole alphabet encourages children to "hear" the alphabet inside their heads. For example, the mime for a–apple is eating an apple, for b–bird students flap their arms like wings, c–cat is an open then closed hand movement across the mouth suggesting whiskers, for d–dog both hands are raised like paws with a nodding of the head to suggest panting. The mimes were invented mainly using things that the children were already familiar with. In our experience many children find it easier to learn by sound and movement together. Accelerated learning of the alphabet has been seen on the English programme by using a mime to accompany the other three

ways, providing a fourth dimension to learning the value of the 26 building blocks.

Early exposure to how some of the easy to remember letters fit together to make phonically recognisable words allows most children to “click” onto the concept that letters make up a word. It can give children an increased appetite for learning the rest of the alphabet, and the more difficult elements they need to be able to decode the alphabet.

The alphabet mime has helped most children on the programme to learn the alphabet and spell cvc words in less than one school year.

Interactive teaching

“I hear and I forget, I see and I remember, I do and I understand” are words from Confucius that are central to the English programme.

Teaching involves a series of relationships between the student and the subject matter, the teacher, and the other students in the class. There are many ways to engage the student with the subject which are exciting for the young learner. We believe that the most fruitful learning relationships are active, not passive, and that interactive teaching is most effective when the students communicate with the teacher, as well as each other, and have the opportunity to explore material or experiences. Explorative learning focuses on the student finding out, by simply trying something to see what happens. The student then learns to recognise patterns where a particular action always produces the same outcome. This type of approach is very different to one where the emphasis is on a clear-cut choice between

right and wrong, and the most important thing is to choose the correct answer.

Teachers can set their students and themselves free to facilitate explorative learning, putting aside concerns about perfect order, organisation, and absolute control within the classroom, in the interests of allowing the students to find out. Students should be encouraged to participate as much as possible, to ask questions, and to tell the teacher when they can’t make sense of something. Teachers on the English programme view themselves as helpers rather than experts whose knowledge cannot be questioned.

Spontaneity has a place. A sudden rainbow appearing may be an opportunity to crowd to the window and sing the rainbow song. Taking the students into the corridor to practice a mime, count the steps to the classroom, say the colours that can be seen, or describe the weather are opportunities to show spontaneous action that enhance learning and excite children. Spontaneity reinforces the message that curiosity is a good thing.

The programme uses specialised equipment to introduce the concept of learning with play. The vegetable and fruit stand allows for almost unlimited creative use in shopping games. The plastic fruit and vegetables that make up the play and learn shop are photographed and used as laminated cards to encourage language practice. For example, in teams of two students, one student can see the card and request two red apples and the other student fills the order. On returning with a full basket the first student asks, “What is this?” The shopping student must reply, “Two red apples.” A point is awarded. This type of exercise uses speaking and listening skills and increases vocabulary. It also engages the children

in communicating with each other. Often students engaged like this can correct and encourage each other far beyond what the teacher can achieve. Children never tire of shopping games, and quite quickly not only learn names of fruit and vegetables, but consolidate their colour and counting skills as well.

The programme's customised wooden play kitchen also encourages speaking, listening, and vocabulary skills. There are a huge number of verbs that can be included in lessons around the kitchen. A game of mime can be quickly introduced using words like *washing, cutting, cleaning, eating, cooking, burning, and peeling*. Phrases such as "What is he doing?" and the appropriate answers can be rapidly learned and used with confidence in a single lesson. Play shopping and cooking are the activities that engage a classroom of 25 children best of all.

Gender issues

Our observations tell us that there are wide ranges of behaviour in both girls and boys. The English programme has been guided more specifically by the works of Dr. Leonard Sax, who believes that schools may be failing to recognise the differences in the auditory acuity of boys and girls, and failing to recognise the difference in the developmental timetables of boys and girls. His message to teachers is: "When teachers recognize, understand, and make use of the biologically different ways boys think and feel and act and play and learn, it makes all the difference in the world" (2005).

We used to believe that gender differentiated behaviour is learned through socialization. There is now increasing evidence to support the view that gender differentiated behavior is genetic. Scourfield, John, Martin, and McGuffin (2009) suggest that this applies particularly in relation to prosocial behaviour.

When the English program began, our teaching was driven by the belief that treating boys and girls the same would lead to the same learning outcomes. Observations as the program has progressed have modified our approach, so that now we feel it is essential to treat boys and girls differently to ensure the best learning outcomes for each.

Many of our observations about boys agree with the research of Dr. Sax: for example, that boys are not as adept as girls at interpreting facial expressions, develop targeting skills and spatial memory earlier than girls, are more likely to do homework if the subject interests them, are not likely to ask for help from the teacher, overestimate their own ability, excel at object location (where something is, as apposed to what it is), enjoy taking risks, prefer violent stories and scary images, and draw verbs rather than nouns.

The practical application of this new insight into gender differences has led us to include more activities about construction using spatial abilities, and use more images that are interesting to boys, such as dinosaurs and spiders, and fewer images of butterflies and flowers. Images of transport and machines can be material used for learning colour, numbers, location, and size.

We had a very good response to learning direction vocabulary using radio controlled cars in the classroom. Our teachers understand the need to seat boys nearer to sound

sources and also to take into account that boys may struggle to express emotions in facial expressions, particularly when the teacher is looking for signs of remorse.

We have found boys will respond well to movement and team games. They like choosing team names that are football teams, and giving high fives when they gain a point. Loud cheering is allowed. We have stories about scary things: big spiders and snakes in a jungle. We encourage images of transport machines on posters around the classroom and in drawings. We have tried to balance the material so there are fewer mermaids and more sharks. We use images of monsters or wild animals, and try to include images in written work that boys prefer, as well as exercises involving speed, location, and direction. Teachers have begun to comment on the improved concentration span of boys and their more obvious engagement during lessons that have been designed to promote greater interaction from boys.

Why teach to reach?

As teachers we all want to reach our students and make an investment in their learning, to be part of changing their life chances for the better. We are here for our students and because of our students, so our job is to do whatever we can to provide stimulation through new thinking, and to relish the opportunity to modify our own teaching approach and practice. Highly motivated teachers help students to learn faster and love their English lessons. The English programme has travelled a long way in a short time; this article is merely a single instalment of what we are only beginning to learn.

Kate Cope was Director of Education for the Phuket Has Been Good To Us Educational Foundation from 2006-2008. Her main interests are the development of phonological awareness, exploring new ways of accelerating EFL learning, and investigating the use of play in the classroom. Kate's particular focus is primary grades 1-6. <katecope914@hotmail.com>

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