

# 听力配套阅读材料

**2017-02**

## Unit Three

### On Going a Journey

*William Hazlitt*

I have no objection to go to see ruins, aqueducts, pictures, in company with a friend or a party, but rather the contrary, for the former reason reversed. They are intelligible matters, and will bear talking about. The sentiment here is not tacit, but communicable and overt. Salisbury Plain is barren of criticism, but Stonehenge will bear a discussion antiquarian, picturesque, and philosophical. In setting out on a party of pleasure, the first consideration always is where we shall go to: in taking a solitary ramble, the question is what we shall meet with by the way. "The mind is its own place "; nor are we anxious to arrive at the end of our journey. I can myself do the honours indifferently well to works of art and curiosity. I once took a party to Oxford with no mean éclat—showed them that seat of the Muses at a distance, "With glistening spires and pinnacles adorn'd" (From John Milton, *Paradise Lost*) descanted on the learned air that breathes from the grassy quadrangles and stone walls of halls and colleges—was at home in the Bodleian; and at Blenheim quite superseded the powdered Cicerone that attended us, and that pointed in vain with his wand to commonplace beauties in matchless pictures. As another exception to the above reasoning, I should not feel confident in venturing on a journey in a foreign country without a companion. I should want at intervals to hear the sound of my own language. There is an involuntary antipathy in the mind of an Englishman to foreign manners and notions that requires the assistance of social sympathy to carry it off. As the distance from home increases, this relief, which was at first a luxury, becomes a passion and an appetite. A person would almost feel stifled to find himself in the deserts of Arabia without friends and countrymen; there must be allowed to be something in the view of Athens or old Rome that claims the utterance of speech; and I own that the Pyramids are too mighty for any single contemplation. In such situations, so opposite to all one's ordinary train of ideas, one seems a species by ones self, a limb torn off from society, unless one can meet with instant fellowship and support. Yet I did not feel this want or craving very pressing once, when I first set my foot on the laughing shores of France. Calais was peopled

with novelty and delight. The confused, busy murmur of the place was like oil and wine poured into my ears; nor did the mariners' hymn, which was sung from the top of an old crazy vessel in the harbour, as the sun went down, send an alien sound into my soul. I only breathed the air of general humanity. I walked over "the vine-covered hills and gay regions of France," erect and satisfied; for the image of man was not cast down and chained to the foot of arbitrary thrones: I was at no loss for language, for that of all the great schools of painting was open to me. The whole is vanished like a shade. Pictures, heroes, glory, freedom, all are fled: nothing remains but the Bourbons and the French people !—There is undoubtedly a sensation in travelling into foreign parts that is to be had nowhere else; but it is more pleasing at the time than lasting. It is too remote from our habitual associations to be a common topic of discourse of reference, and, like a dream or another state of existence does not piece into our daily modes of life. It is an animated but a momentary, hallucination. It demands an effort to exchange our actual for our ideal identity; and to feel the pulse of our old transports revive very keenly, we must "jump" all our present comforts and connections. Our romantic and itinerant character is not to be domesticated. Dr. Johnson remarked how little foreign travel added to the facilities of conversation in those who had been abroad. In fact, the time we have spent there is both delightful and, in one sense, instructive; but it appears to be cut out of our substantial, downright existence; and never to join kindly on to it. We are not the same, but another, and perhaps more enviable individual, all the time we are out of our own country. We are lost to ourselves, as well as our friends. So the poet somewhat quaintly sings: "Out of my country and myself I go." Those who wish to forget painful thoughts, do well to absent themselves for a while from the ties and objects that recall them; but we can be said only to fulfill our destiny in the place that gave us birth. I should on this account like well enough to spend the whole of my life in travelling abroad, if I could anywhere borrow another life to spend afterwards at home!

## THE LAST FRONTIER

In 1865 the frontier line generally followed the western limits of the states bordering the Mississippi River, bulging outward to include the eastern sections of Kansas and Nebraska. Beyond this thin edge of pioneer farms lay the prairie and sagebrush lands that stretched to the foothills of the Rocky Mountains. Then, for nearly 1,600 kilometers, loomed the huge bulk of mountain ranges, many rich in silver, gold and other metals. On the far side, plains and deserts stretched to the wooded coastal ranges and the Pacific Ocean. Apart from the settled districts in California and scattered outposts, the vast inland region was populated by Native Americans: among them the Great Plains tribes -- Sioux and Blackfoot, Pawnee and Cheyenne -- and the Indian cultures of the Southwest, including Apache, Navajo and Hopi.

A mere quarter-century later, virtually all this country had been carved into states and territories. Miners had ranged over the whole of the mountain country, tunneling into the earth, establishing little communities in Nevada, Montana and Colorado. Cattle ranchers, taking advantage of the enormous grasslands, had laid claim to the huge expanse stretching from Texas to the upper Missouri River. Sheep herders had found their way to the valleys and mountain slopes. Farmers sank their plows into the plains and valleys and closed the gap between the East and West. By 1890 the frontier had disappeared.

Settlement was spurred by the Homestead Act of 1862, which granted free farms of 64 hectares to citizens who would occupy and improve the land. Unfortunately for the would-be farmers, the land itself was suited more for cattle ranching than farming, and by 1880 nearly 22,400,000 hectares of "free" land was in the hands of cattlemen or the railroads.

In 1862 Congress also voted a charter to the Union Pacific Railroad, which pushed westward from Council Bluffs, Iowa, using mostly the labor of ex-soldiers and Irish immigrants. At the same time, the Central Pacific Railroad began to build eastward from Sacramento, California, relying heavily on Chinese immigrant labor. The whole country was stirred as the two lines steadily approached each other, finally meeting on May 10, 1869, at Promontory Point in Utah. The months of laborious travel hitherto separating the two oceans was now cut to about six days. The continental rail network grew steadily, and by 1884 four great lines linked the central Mississippi

Valley area with the Pacific.

The first great rush of population to the Far West was drawn to the mountainous regions, where gold was found in California in 1848, in Colorado and Nevada 10 years later, in Montana and Wyoming in the 1860s, and in the Black Hills of the Dakota country in the 1870s. Miners opened up the country, established communities, and laid the foundations for more permanent settlements. Yet even while digging in the hills, some settlers perceived the region's farming and stock-raising possibilities. Eventually, though a few communities continued to be devoted almost exclusively to mining, the real wealth of Montana, Colorado, Wyoming, Idaho and California proved to be in the grass and soil.

Cattle-raising, long an important industry in Texas, flourished after the Civil War, when enterprising men began to drive their Texas longhorn cattle north across the open public land. Feeding as they went, the cattle arrived at railway shipping points in Kansas, larger and fatter than when they started. Soon this "long drive" became a regular event, and, for hundreds of kilometers, trails were dotted with herds of cattle moving northward. Cattle-raising spread into the trans-Missouri region, and immense ranches appeared in Colorado, Wyoming, Kansas, Nebraska and the Dakota territory. Western cities flourished as centers for the slaughter and dressing of meat.

Ranching introduced a colorful mode of existence with the picturesque cowboy as its central figure. Although the reality of cowboy life, with its low pay and grueling work, was far from romantic, its mythological hold on the American imagination has remained strong, from the "dime" novels of the 1870s to the films of John Wayne and Clint Eastwood in the late 20th century.

Altogether, between 1866 and 1888, some six million head of cattle were driven up from Texas to winter on the high plains of Colorado, Wyoming and Montana. The cattle boom reached its height in 1885, when the range became too heavily pastured to support the long drive, and was beginning to be crisscrossed by railroads. Not far behind the rancher creaked the covered wagons of the farmers bringing their families, their draft horses, cows and pigs. Under the Homestead Act they staked their claims and fenced them with a new invention, barbed wire. Ranchers were ousted from lands they had roamed without legal title. Soon the romantic "Wild West" had ceased to be.

*From An Outline of American History*

## Unit Four

### Do You Look Your Age?

It can be hard to guess someone's exact age. A range of factors may leave marks on our appearance: how much sleep we've had--even the way we dress and our view of ourselves. The good news is that just as these factors can add years on to your appearance, it follows that they can also take years off. We don't always have control over some of those social factors that can make us look younger, but there are other steps we can take to try to stop the ravages of age.

#### **SOCIAL FACTORS**

Last month the University of Southern Denmark published a report, *The Influence of Environmental Factors on Facial Ageing*, which showed that how we live can affect how old we look. In it, 1826 twins were photographed and then ten female nurses aged between 25-46 years were asked to guess how old the "models" were. The results were intriguing. They showed that belonging to a high social class can make us look up to four years younger and many other lifestyle factors were shown to affect the way we look. Having children was found to make men look a full year younger, though it had no effect on women, and having four or more children cancelled out the benefit.

Depression and sun exposure were the biggest factors in making you look old before your time. Depression added up to three and a half years to a woman's perceived age (and 2.4 years for men). Sun exposure piled on at least an extra year. Smoking put on six months for a woman and a year for a man. Meanwhile, having a high BMI (body mass index) was found to take a whole year off for both men and women. "If you are not depressed, not a smoker and not too skinny, you are basically doing well," says Professor Kaare Christensen (married, three children, non-smoker), one of the report's authors. Professor Christensen's report concluded that it was more dangerous for our health to look a year older, than to actually be a year older.

#### **NUTRITION**

This is possibly the biggest change we can make fairly easily. There are four main factors that

prematurely age us: smoking, too much alcohol, lack of fresh fruit and vegetables and insufficient protein intake. You can immediately tell a smoker. It's not just the lines around the mouth and eyes, but smoking is dehydrating to the body. Every time you inhale on a cigarette you're taking toxins into the body which have to be diffused and detoxified by the liver and kidneys and they're dependent on plenty of fresh water to carry toxins away. Most smokers don't drink anywhere near enough water.

The really big, quick-fix, though, is eating more fresh fruit and vegetables. You can see if someone doesn't eat enough, or any, fresh fruit and veg in a minute. The skin lacks a freshness and translucency. This is because the skin is the last organ to benefit from the nutrients you eat--the likes of the brain, heart and lungs all get first share. If someone's diet is lacking in fruit and veg, the skin will become dehydrated. This is a sign that sufficient nutrients aren't being delivered, so from an anti-ageing point of view, it's important to have live, fresh food and raw food is vital. If you have to cook, steaming will retain at least some of the vitamins and minerals.

The other really important thing and one we tend to miss out on in our diet-obsessed culture, is adequate intake of essential fatty acids, from oily fish, nuts and seeds. EFAs are vital for prolonging life expectancy because every cell in the body has a phospholipid bilayer that protects it, but they also give the skin a dewy, "bouncy", youthful feel. One of the worst things you can do in terms of looking old is to go on a low-fat diet. Stress is another big one for adding years. We can help support the adrenal and thyroid glands, which take a hammering when we're stressed, by eating plenty of fresh vitamin C and magnesium for the adrenal glands; and iodine, selenium zinc and B vitamins to support the thyroid.

## **EXERCISE**

We've come to think of exercise as a pure slimming pursuit and women tend to be rather scared of lifting weights, but building lean tissue through weight-bearing exercise is key to keeping the years at bay. Exercise can help reduce the effects of ageing by slowing down the decline of type II muscle fibres. Generally type I muscle fibres deal with aerobic activities and type II with anaerobic ones. The type II responds to resistance work to improve muscle tone. With ageing there's a reduction in frequency, duration and intensity of habitual activity: we generally move less. So these type II fibres deteriorate because they simply don't get enough stimuli.

## **SKINCARE**

Almost every skin cream promises to make you look younger. It's a promise many are seduced by, but many end up disappointed. The problem is not that products don't work, but starting too late, and then not spending enough money. A lot of people skip good skincare until they think they need it, and by then it's actually too late. In women the skin around the eyes is the first to go, in men it's the hands. A good routine should start early because maintenance is much easier than repair.

Your skin also becomes more transparent as you get older, so you need to adapt your make-up and hair colour accordingly. Foundation should be lighter than you'd imagine, and sheerer, and if you want to cover grey, don't be tempted to go for a too-dark hair colour or block colour--highlights are kind. Don't forget to apply moisturiser around the back of the neck: It's the only bit of skin attached to a bone so it's important you look after it to avoid sagging.

*From IELTS*

## **Childhood Obesity**

If a child becomes obese their body processes can change. Some of these may be difficult or even impossible to alter in adulthood. Fat cells are created in the first few years of life. If fat is stored quickly, more fat cells are created. So an obese child can have up to three times as many as a normal child. Eventually, fat cells stop multiplying and an adult has a fixed number for the rest of their life. The existing cells simply swell or shrink to accommodate more fat. The amount of fat the body wants to store is thought to be proportional to the total number of fat cells. So if you were overweight as a child, your body is programmed to carry more fat. This doesn't mean that you can't lose weight through diet and exercise, but it will be harder.

Few health problems are observed in obese children, but they may develop conditions that



cause problems later in life, such as high blood pressure. They may also suffer from 'sleep apnoea'. When this happens, soft tissue in the throat blocks the airways during sleep. This can stop their breathing for up to a minute. This process can happen hundreds of times a night, leading to heart disease, memory problems, headaches and tiredness. Some obese children may develop diabetes. Normally this condition only starts much later in life. When it strikes, the body stops being able to process sugar properly and the cells are starved of energy. Diabetes cannot be cured, but it can be treated. It may lead to problems such as nerve damage, heart disease, kidney disease and blindness. Children with this condition will have to live with it all their lives, increasing the chance of problems.

Negative body image can cause depression and social problems—overweight children are often teased. Low self-esteem may not directly affect physical health, but it is actually the biggest problem obese children meet in everyday life. It may even lead to 'comfort eating' (eating to feel good), making the situation even worse. If modern-day culture placed less emphasis on the 'perfect body', than at least one set of problems associated with obesity would disappear.

Although the causes are not yet completely understood, it is clear to scientists that both genes and the environment play a role. The recent increase in obesity in many countries around the world seems to be linked to environmental factors. Firstly, many people are much less physically active nowadays. Secondly, fatty and sugary foods are more accessible to more people. Thirdly, average portion sizes have become larger as people have more food to eat and restaurants, particularly fast food ones, serve larger portions for relatively little extra money. Fourthly, calories per mouthful of food have increased.

Traditionally, children all over the world have been forced by their parents to finish all the food that is on their plate. Don't force children to eat more when they say they are full—otherwise they could lose their ability to naturally regulate what they eat. Wait a few minutes before serving a second portion of food at mealtimes. It takes some time for the messages that tell us we have had enough to eat to reach the brain. Another global tradition is that of giving children their favourite food as a reward for good behaviour or good grades at school. Using food as a reward is never a good idea because your child will learn to value these particular 'treat' foods and may turn to food for comfort. Use non-food rewards instead—they don't need to be large material rewards. One of the best motivators is praise! Don't tell your child off for being fat. Your child may already feel

upset about their weight. Telling them off will only make them feel worse and may add to the problem if they then turn to food for comfort. Don't single out your child as the one with the problem. Introduce healthier meals to the whole family. This way, everyone can make healthy changes to their lifestyle.

It is not worth forbidding fattening foods, because forbidding certain foods can make them seem more attractive to children. Teach your child about the health value of foods, particularly those that are rich in vitamins and nutrients. Make your home a healthy food zone. Fill up the fruit bowl instead of buying biscuits and crisps. Remember that your child is likely to model themselves on your behaviour, so choose healthy food options whenever possible. Offering a child a choice of food is generally not a good idea. Research has shown that when there is more choice available we tend to eat more. Even the sight or smell of tempting food can override the body's natural mechanism of regulation so we eat when we're not hungry. If you do decide to offer your child a choice, keep the options to an absolute minimum.

Weight management camps can be a good way to treat obesity. One of the problems is keeping off the weight that kids lose at such camps. If the child comes home and none of the family members have altered their eating habits, improvements may be difficult to sustain. Again, lead by example! An increasing number of parents ask their doctors about surgery (e.g. liposuction) to tackle obesity. If a child has massive obesity and his or her health is being put at serious risk, then all options have to be considered. Surgical treatments have shown good results in adults, but there are serious risks. Performing surgery on children would raise some difficult issues. This option should really only be considered when all others have been exhausted.

Parents of even young children can make sure the family changes to a healthy lifestyle rather than targeting weight loss specifically. Children grow at different rates and many overweight children will 'grow out of it' as they grow taller. Few treatments are targeted at children under the age of seven years. From age eight to 10, a child who is obese should have a medical evaluation to assess the severity of the problem. The older your child is, the less likely they are to grow out of it. A 15-year-old who is overweight is likely to remain so in adulthood.

*From IELTS*

## **Unit Five**

### **Is there water on Mars?**

A large number of photographs taken by the Mars Global Surveyor spacecraft suggest that even today water may be flowing up from the interior of Mars, and streaming onto the surface—dramatically increasing the likelihood that at least part of the planet is biologically alive. “If this proves to be the case,” said Ed Weiler, of NASA’s Office of Space science, “it has profound implications for the possibility of life on Mars.”

Finding liquid water on Mars’ surface has never been easy—mostly because it simply can’t exist there. The modern Martian atmosphere has barely 1% the density of the Earth’s, and the planet’s average temperature hovers around -55 degrees C. In an environment as harsh as this, any water that did appear would either vaporize into space or freeze solid. What scientists who studying Mars have always been looking for instead are clues that there was water in the planet’s distant past: In fact, they admit that there may have been oceans at one time on Mars.

The 65,000 images, which the Surveyor has beamed home since it was launched in 1998, show plenty of channels and terraces on the surface of Mars. But a handful of the pictures took the scientists by surprise. Besides looking fairly new, the channels are mainly located near the poles of Mars, where the temperature is coldest. Scientists have long assumed that if underground water was going to bubble up on Mars, it would have to do so somewhere in the comparatively balmy equatorial zones, where temperatures at high noon in midsummer may approach 20 degrees C. Moreover, the channels are all carved into the cold, shaded sides of slopes.

Paradoxically, this finding may increase the chances that the gullies are water-related. Any water that appeared on the sunny sides of hills would be likely to evaporate almost instantly. Moisture that seeped out in the shade would form a temporary crust of ice that would last only until the pressure of upwelling water behind it caused it to burst. When it did, there would be a sudden downward gush that would leave precisely the kind of clear-cut channel Surveyor spotted. If such features were discovered on Earth, said Michael Malin, principal investigator for the

Surveyor's camera system, "there would be no question that water would be associated with them."

However, there are alternative explanations for these channels and ridges. One school of thought maintains that they could have been caused by "rivers" of silicon dust. The theory goes that millions of years ago, when the molten mass of Mars cooled down, the fast cooling of the surface lava produced extremely small silicon particles. It has been proved that Martian soils contain a large amount of silicon. These particles would then have bonded with the methane gas which was also produced by the cooling process due to the action of ultraviolet light. The silicon combined with methane would then have flowed in much the same way as rivers—from high to low areas. Over a long period of time, the flow would disintegrate rock and form channels or gullies, like those photographed by the Surveyor.

Another theory is that the features which seem to be evidence of the action of water—whether oceans or rivers—are more likely linked to the planet's volcanoes. Paul Withers of the University of Arizona and Gregory Neumann of the Massachusetts Institute of Technology, think that there is a closer correlation between the sizes of the terraces and seismic activity than the formation of ocean shore lines. They explained that the surface crust of Mars is not formed of a network of plates, like the Earth's, which move over time. So Martian volcanoes grew much higher than those on Earth, putting tremendous stress on the crust, and generating the ridges and channels seen in the Surveyor photographs. "In our future work," said Withers and Neumann, "we intend to study the terraces further in order to ascertain what the Martian crust and lithosphere were like at the time the seismic activity led to the formation of the volcanoes."

For NASA, the new findings couldn't have come at a better time. After the recent spectacular failures of two unmanned Mars probes, the agency's entire planetary exploration program came under fire. The possibility of a wet Mars, however, suggests that not only might the planet be home to indigenous life, it could also more easily support human life. Visiting astronauts would need water for a variety of purposes, including manufacturing air and perhaps even rocket fuel. Pumping up water available on Mars rather than hauling supplies from earth could dramatically slash the cost of a mission. All this, NASA hopes, will encourage the reluctant Congress to give the green light to future Mars missions, both manned and unmanned.

## **Early Astronaut Selection and Training**

**(Courtesy KSC/NASA)**

Spacemen of fiction - Jules Verne's travelers to the Moon, or the comic strip heroes Flash Gordon and Buck Rogers - were familiar characters midway through the 20th Century, but nobody could describe accurately a real astronaut. There were none.

Then in 1959 the National Aeronautics and Space Administration asked the United States military services to list their members who met specific qualifications. The search was underway for pilots for the exciting new manned space flight program.

In seeking its first space pilots, NASA emphasized jet aircraft flight experience and engineering training, and it tailored physical stature requirements to the small cabin space available in the Mercury capsule then being designed. Basically, those 1959 requirements were: Less than 40 years of age; less than 5ft. 11 inches tall; excellent physical condition; bachelor's degree or equivalent in engineering; qualified jet pilot; graduate of test pilot school, and at least 1500 hours of flying time.

More than 500 men qualified. Military and medical records were examined; psychological and technical tests were given; personal interviews were conducted by psychological and medical specialists. At the end of the first screening, many candidates were eliminated and others decided they did not want to be considered further.

Even more stringent physical and psychological examinations followed, and in April 1959 NASA announced its selection of seven men as the first American astronauts. They were Navy Lieutenant M. Scott Carpenter; Air Force Captains L. Gordon Cooper, Jr., Virgil I. "Gus" Grissom, and Donald K. "Deke" Slayton; Marine Lieutenant Colonel John H. Glenn, Jr., and Navy Lieutenant Commanders Walter M. Schirra, Jr., and Alan B. Shepard, Jr.

Each flew in Project Mercury except Slayton, who was grounded with a previously undiscovered heart condition. After doctors certified that the condition had cleared up, Slayton realized his ambition to fly in space 16 years after his selection. He was a member of the

American crew of the Apollo Soyuz Test Project in July 1975, the world's first international manned space flight.

#### More Recruiting

Three years after that first selection, NASA issued another call for Gemini and Apollo astronaut trainees. Experience in flying high-performance aircraft still was stressed, as was education. The limit on age was lowered to 35 years, the maximum height raised to 6 feet, and the program was opened to qualified civilians. This second recruitment brought in more than 200 applications. The list was screened to 32, then finally pared to nine in September 1962.

Fourteen more astronaut trainees were chosen from nearly 300 applicants in October 1963. By then, prime emphasis had shifted away from flight experience toward superior academic qualifications. In October 1964 applications were invited on the basis of educational background alone. These were the scientist-astronauts, so called because the 400-plus applicants who met minimum requirements had a doctorate or equivalent experience in natural sciences, medicine, or engineering.

These applications were turned over to the National Academy of Sciences in Washington for evaluation. Sixteen were recommended to NASA, and six were selected in June 1965. Although the call for volunteers did not specify flight experience, two of the applicants were qualified jet pilots and did not need the year of basic flight training given the others.

Another 19 pilot astronauts were brought into the program in April 1966, and 11 scientist-astronauts were added in mid-1967. When the Air Force Manned Orbiting Laboratory program was cancelled in mid 1969, seven astronaut trainees transferred to NASA.

*Views of the Solar System Copyright &copy; 1997-2001 by Calvin J. Hamilton.*

## Unit Six

### Encyclopedic knowledge about heredity

#### ► HEREDITY AND VARIATION

Genes can be thought of as the basic units of heredity—the inheritance of traits from one generation to the next. Genes determine a variety of physical features, including your gender, height, and hair and eye colors. To find out how genes control such traits, geneticists study the patterns of variation, or change, in traits passed along from parents to their offspring.

When an individual exhibits a trait, geneticists say that the phenotype for that trait is expressed. Phenotypes are determined by combinations of different versions of a gene. Just as chromosomes come in pairs, so do most genes. These similar genes are called alleles. Alleles are located at the same site on each member of a chromosome pair and contain the genetic code for alternate forms of the same gene. The combination of alleles is called a genotype.

Genetic variation can happen when germ cells (sperm and eggs) are formed. In this process, called meiosis, cells will divide twice to produce four germ cells. During the first division, genes can be reshuffled between chromosomes. This reshuffling, or genetic recombination, varies the traits we see in individuals even within the same family.

genotype, or combination of alleles, is Tt (see the diagram below). So, each child could have one of four possible **genotypes**, TT, Tt, Tt, or tt. Because T is dominant, both parents can roll their tongues, and any child with that allele will be able to do so as well. Only a child with the genotype tt will lack the ability.

Family members with either the genotypes TT or tt are called homozygous. Members with the **genotype** Tt are called heterozygous. They are often referred to as carriers of the recessive allele—that is, they do not exhibit the recessive trait but they still carry the gene for it.

#### Gene Interactions

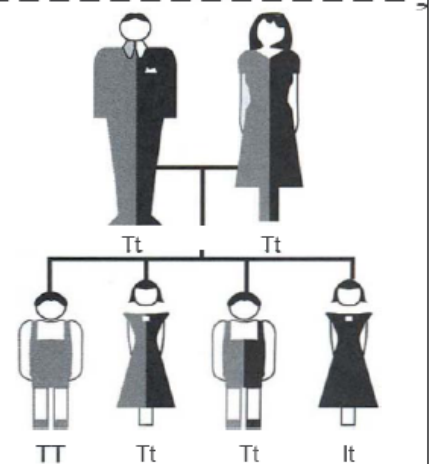
Not all phenotypes are simply dominant or recessive. Geneticists believe that many traits involve

#### Dominant and Recessive Genes

Despite this variety, many members of a family can have similar features. These traits are often examples of phenotypes that are said to be dominant. Other characteristics in a family may be seen in only some members. These traits are often examples of recessive phenotypes.

#### INHERITANCE EXAMPLE

Parents with both types, or alleles, of the tongue-rolling gene can produce children with four possible combinations of alleles, or **genotypes**. All three children carrying the dominant allele T can roll their tongues. Only the child with both copies of the recessive allele t is **unable** to do so.



For example, suppose two parents had both the dominant and recessive alleles for a certain **trait**—say, the ability to roll the tongue. Let us label the dominant allele (for the tongue-rolling ability) with a capital T, and the recessive allele (for no tongue-rolling ability) with a lowercase t. Each parent's

several genes that interact with one another in complex ways. These interacting genes, called **polygenes**, can produce a continuous variation in a trait that ranges from one extreme to another. In humans, characteristics such as height, weight, and skin color are all the result of polygenes.

Even some aspects of human intelligence and behavior appear to be influenced by multiple genes. For many years, scientists have debated whether intelligence and behavior are determined by genetics or shaped by how we are raised. Today, most scientists believe that genes, upbringing, and the interaction between the two are responsible.

From *The New Book of Knowledge*, 2001 Edition.  
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## **Ant Intelligence**

When we think of intelligent members of the animal kingdom, the creatures that spring immediately to mind are apes and monkeys. But in fact the social lives of some members of the insect kingdom are sufficiently complex to suggest more than a hint of intelligence. Among these, the world of the ant has come in for considerable scrutiny lately, and the idea that ants demonstrate sparks of cognition has certainly not been rejected by those involved in these investigations.

Ants store food, repel attackers and use chemical signals to contact one another in case of attack. Such chemical communication can be compared to the human use of visual and auditory channels (as in religious chants, advertising images and jingles, political slogans and martial music) to arouse and propagate moods and attitudes. The biologist Lewis Thomas wrote, ‘Ants are so much like human beings as to be an embarrassment. They farm fungi, raise aphids as livestock, launch armies to war, use chemical sprays to alarm and confuse enemies, capture slaves, engage in child labour, exchange information ceaselessly. They do everything but watch television.’

However, in ants there is no cultural transmission—everything must be encoded in the genes—whereas in humans the opposite is true. Only basic instincts are carried in the genes of a newborn baby, other skills being learned from others in the community as the child grows up. It may seem that this cultural continuity gives us a huge advantage over ants. They have never mastered fire nor progressed. Their fungus farming and aphid herding crafts are sophisticated when compared to the agricultural skills of humans five thousand years ago but have been totally overtaken by modern human agribusiness.

Or have they? The farming methods of ants are at least sustainable. They do not ruin environments or use enormous amounts of energy. Moreover, recent evidence suggests that the crop farming of ants may be more sophisticated and adaptable than was thought.

Ants were farmers fifty million years before humans were. Ants can’t digest the cellulose in leaves—but some fungi can. The ants therefore cultivate these fungi in their nests, bringing them leaves to feed on, and then use them as a source of food. Farmer ants secrete antibiotics to control other fungi that might act as ‘weeds’, and spread waste to fertilise the crop.

It was once thought that the fungus that ants cultivate was a single type that they had propagated, essentially unchanged from the distant past. Not so. Ulrich Mueller of Maryland and



his colleagues genetically screened 862 different types of fungi taken from ants' nests. These turned out to be highly diverse: it seems that ants are continually domesticating new species. Even more impressively, DNA analysis of the fungi suggests that the ants improve or modify the fungi by regularly swapping and sharing strains with neighbouring ant colonies.

Whereas prehistoric man had no exposure to urban lifestyles — the forcing house of intelligence — the evidence suggests that ants have lived in urban settings for close on a hundred million years, developing and maintaining underground cities of specialised chambers and tunnels.

When we survey Mexico City, Tokyo, Los Angeles, we are amazed at what has been accomplished by humans. Yet Hölldobler and Wilson's magnificent work for ant lovers, *The Ants*, describes a supercolony of the ant *Formica yessensis* on the Ishikari Coast of Hokkaido. This 'megalopolis' was reported to be composed of 360 million workers and a million queens living in 4,500 interconnected nests across a territory of 2.7 square kilometres.

Such enduring and intricately meshed levels of technical achievement outstrip by far anything achieved by our distant ancestors. We hail as masterpieces the cave paintings in southern France and elsewhere, dating back some 20,000 years. Ant societies existed in something like their present form more than seventy million years ago. Beside this, prehistoric man looks technologically primitive. Is this then some kind of intelligence, albeit of a different kind?

Research conducted at Oxford, Sussex and Zürich Universities has shown that when desert ants return from a foraging trip, they navigate by integrating bearings and distances, which they continuously update in their heads. They combine the evidence of visual landmarks with a mental library of local directions, all within a framework which is consulted and updated. So ants can learn too.

And in a twelve-year programme of work, Ryabko and Reznikova have found evidence that ants can transmit very complex messages. Scouts who had located food in a maze returned to mobilise their foraging teams. They engaged in contact sessions, at the end of which the scout was removed in order to observe what her team might do. Often the foragers proceeded to the exact spot in the maze where the food had been. Elaborate precautions were taken to prevent the foraging team using odour clues. Discussion now centres on whether the route through the maze is communicated as a 'left-right' sequence of turns or as a 'compass bearing and distance' message.

During the course of this exhaustive study, Reznikova has grown so attached to her laboratory

ants that she feels she knows them as individuals—even without the paint spots used to mark them. It's no surprise that Edward Wilson, in his essay, 'In the company of ants', advises readers who ask what to do with the ants in their kitchen to: 'Watch where you step. Be careful of little lives.'

*From IELTS*

### **HOW DOES THE BIOLOGICAL CLOCK TICK?**

**A** Our life span is restricted. Everyone accepts this as 'biologically' obvious. 'Nothing lives for ever!' However, in this statement we think of artificially produced, technical objects, products which are subjected to natural wear and tear during use. This leads to the result that at some time or other the object stops working and is unusable ('death' in the biological sense). But are the wear and tear and loss of function of technical objects and the death of living organisms really similar or comparable?

**B** Our 'dead' products are 'static', closed systems. It is always the basic material which constitutes the object and which, in the natural course of things, is worn down and becomes 'older'. Ageing in this case must occur according to the laws of physical chemistry and of thermodynamics. Although the same law holds for a living organism, the result of this law is not inexorable in the same way. At least as long as a biological system has the ability to renew itself it could actually become older without ageing; an organism is an open, dynamic system through which new material continuously flows. Destruction of old material and formation of new material are thus in permanent dynamic equilibrium. The material of which the organism is formed changes continuously. Thus our bodies continuously exchange old substance for new, just like a spring which more or less maintains its form and movement, but in which the water molecules are always different.

**C** Thus ageing and death should not be seen as inevitable, particularly as the organism possesses many mechanisms for repair. It is not, in principle, necessary for a biological system to

age and die. Nevertheless, a restricted life span, ageing, and then death are basic characteristics of life. The reason for this is easy to recognise: in nature, the existent organisms either adapt or are regularly replaced by new types. Because of changes in the genetic material (mutations) these have new characteristics and in the course of their individual lives they are tested for optimal or better adaptation to the environmental conditions. Immortality would disturb this system - it needs room for new and better life. This is the basic problem of evolution.

**D** Every organism has a life span which is highly characteristic. There are striking differences in life span between different species, but within one species the parameter is relatively constant. For example, the average duration of human life has hardly changed in thousands of years. Although more and more people attain an advanced age as a result of developments in medical care and better nutrition, the characteristic upper limit for most remains 80 years. A further argument against the simple wear and tear theory is the observation that the time within which organisms age lies between a few days (even a few hours for unicellular organisms) and several thousand years, as with mammoth trees.

**E** If a life span is a genetically determined biological characteristic, it is logically necessary to propose the existence of an internal clock, which in some way measures and controls the ageing process and which finally determines death as the last step in a fixed programme. Like the life span, the metabolic rate has for different organisms a fixed mathematical relationship to the body mass. In comparison to the life span this relationship is 'inverted': the larger the organism the lower its metabolic rate. Again this relationship is valid not only for birds, but also, similarly on average within the systematic unit, for all other organisms (plants, animals, unicellular organisms).

**F** Animals which behave 'frugally' with energy become particularly old, for example, crocodiles and tortoises. Parrots and birds of prey are often held chained up. Thus they are not able to 'experience life' and so they attain a high life span in captivity. Animals which save energy by hibernation or lethargy (e. g. bats or hedgehogs) live much longer than those which are always active. The metabolic rate of mice can be reduced by a very low consumption of food (hunger diet). They then may live twice as long as their well fed comrades. Women become distinctly (about 10 per cent) older than men. If you examine the metabolic rates of the two sexes you establish that the higher male metabolic rate roughly accounts for the lower male life span. That means that they live life 'energetically' - more intensively, but not for as long.

**G** It follows from the above that sparing use of energy reserves should tend to extend life. Extreme high performance sports may lead to optimal cardiovascular performance, but they quite certainly do not prolong life. Relaxation lowers metabolic rate, as does adequate sleep and in general an equable and balanced personality. Each of us can develop his or her own 'energy saving programme' with a little self-observation, critical self-control and, above all, logical consistency. Experience will show that to live in this way not only increases the life span but is also very healthy. This final aspect should not be forgotten.

*From IELTS*

## Unit Eight

### US Cult of Greed Is Now a Global Environmental Threat

From *The Guardian*

The average American consumes more than his or her weight in products each day, fuelling a global culture of excess that is emerging as the biggest threat to the planet, according to a report published today. In its annual report, Worldwatch Institute says the cult of consumption and greed could wipe out any gains from government action on climate change or a shift to a clean energy economy.

Erik Assadourian, the project director who led a team of 35 behind the report, said: "Until we recognize that our environmental problems, from climate change to deforestation to species loss, are driven by unsustainable habits, we will not be able to solve the ecological crises that threaten to wash over civilization."

The world's population is burning through the planet's resources at a reckless rate, the US think tank said. In the last decade, consumption of goods and services rose 28% to 30.5%.

The consumer culture is no longer a mostly American habit but is spreading across the planet. Over the last 50 years, excess has been adopted as a symbol of success in developing countries from Brazil to India, the report said.

Such trends were not a natural consequence of economic growth, the report said, but the result of deliberate efforts by businesses to win over consumers. Products such as the hamburger—dismissed as an unwholesome food for the poor at the beginning of the 20<sup>th</sup> century—and bottled water are now commonplace. The average western family spends more on their pet than is spent by a human in Bangladesh.

The report did note encouraging signs of a shift away from the high spend culture. It said school meals programmes marked greater efforts to encourage healthier eating habits among children. The younger generation was also more aware of their impact on the environment.

There has to be a wholesale transformation of values and attitudes, the report said. At current rates of consumption, the world needs to erect 24 wind turbines an hour to produce enough energy to replace fossil fuel.

"We've seen some encouraging efforts to combat the world's climate crisis in the past few years," said Assadourian. "But making policy and technology changes while keeping cultures centred on consumerism and growth can only go so far."

"If we don't shift our very culture there will be new crises we have to face. Ultimately, consumerism is not going to be viable as the world population grows by 2bn and as more countries grow in economic power."

In the preface to the report, Worldwatch Institute's president, Christopher Flavin, writes: "As the world struggles to recover from the most serious global economic crisis since the Great Depression, we have an unprecedented opportunity to turn away from consumerism. In the end, the human instinct for survival must triumph over the urge to consume at any cost."

## **There's a Price to Be Paid for Our Cheep Food**

From *The Guardian*

A report last week claimed that at least a third of the 4 billion tonnes of food the world produces each year never gets as far as our mouths. Between 30% and 50% of food purchased in Europe and the US is thrown away. The research is questioned but it does echo the results of an exercise. In Britain six years ago, when researchers for the government-funded Waste and Resources Action Programme went through the nation's rubbish bins. It concluded that we were throwing away 30% of the food we'd bought while it was still edible.

Throwing food out is easy. Using it sensibly, especially the less attractive bits, is not. The urge to bin and buy again, encouraged by advertising campaigns, is all the less resistible now because, despite recent price rises, for most of us, food is cheap.

Price is the key factor in our behaviour with food. Worldwide, it seems that the lower a country's food/income ratio, the higher its incidence of obesity. Presumably, the higher also the proportion of food it chucks out.

Observers of food policy believe that too much of the true cost of food is born not by the consumer or the retailer. The environmental and health damage caused by modern food production and its transport, as well as by excessive consumption, entails vast costs. But it is the supermarkets' eternal price wars---their one-track marketing philosophy where "value" trumps all other qualities in food---that have driven prices so low.

Food inflation is a key political indicator, yet no government is going to risk price rises for all the good it might do for our health or our environment. Supermarkets, with their powerful lobbying arms and political donations, habitually wriggle away from legislation and Competition Commission criticism merely with the threat that any new regulation will raise prices.

Now stricter regulation of the food giants is required. An alternative to voluntary change is to tax the food industry in just proportion to the damage it causes. Another idea gaining ground across Europe is for a sugar tax---the cheap processed foods and soft drinks that carry the largest profit margins (and which are a key cause of obesity) depend hugely on sugar for their appeal. There are lots of ideas around for the "zero-waste economy" that successive governments have repeatedly promised. But first and foremost, politicians have to conquer their fear of "big food".

### **Question:**

Please make some comments on the relationship between consumption and environment, using the examples given in the two articles.

## CLASSROOM ETIQUETTE: A CROSS-CULTURAL STUDY OF CLASSROOM BEHAVIORS

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*Cultural diversity in an ESL/EFL class offers both teacher and students the opportunity to meet and become familiar with various aspects of the students' home countries. However, the resulting gulf between what is considered appropriate or inappropriate in a classroom setting can prove disconcerting if a teacher is not adept at interpreting those behavioral displays. This study was undertaken to compare the classroom etiquette, i.e. appropriate and inappropriate behavioral displays in an instructional setting, across eight countries (Argentina, China, Italy, Japan, Korea, Taiwan, the Ukraine and Vietnam).*

### INTRODUCTION

Understanding the various cultures ESL teachers may encounter in their classroom is an essential component in creating a positive classroom environment. If instructors are not sensitive to the cues given by a student, the teacher may misinterpret the actions, behaviors and intentions of that student. Conversely, international students, unaccustomed to American behaviors, will likely encounter similar misunderstandings. Although impossible to have a clear understanding of every culture, from a pedagogical perspective, it is important to have some sense of common behavioral displays made by students in an ESL classroom. This research was inspired by observing international graduate students, all articulate, mature and polite individuals, appear uncomfortable in an American classroom setting. It is important to recognize that if these circumstances existed for highly proficient graduate students accustomed to functioning in culturally diverse settings, the degree of discomfort would likely be magnified for other less-experienced international students. This situation suggests research is needed to explore differences between classroom etiquette in the United States and abroad. This project is an attempt to understand both *what* specific behaviors the international students frequently display and *why* that behavior is present. Only in gaining a deeper sense of these underlying factors can an ESL teacher recognize these seemingly inappropriate or unusual behaviors as manifestations of acceptable cultural norms in the students' home countries.

### LITERATURE REVIEW

When viewing dynamics between international students within the context of a U.S. classroom, many facets are available for discussion. Previous research conducted in the area of classroom etiquette has centered on explaining differences encountered by international students such as

structured, authoritarian classroom environments (Panel, 1987), learning styles (Oxford, Hollaway & Horton-Murillo, 1992), collaborative efforts (Garner, 1991) and silence as a mode of participation (Liu, 2002). Further, much of what has been written about international students has been limited to Asian students (Chu & Kim, 1999; Farver, Kim & Lee, 1995; Paine, 1990; Stevenson & Lee, 1995), while still little research exists on the issues faced by non-mainstream American students (Philips, 1970). This literature mentioned problems faced by international students, including assumptions about the educational setting in the United States, concepts of politeness such as deference, unity and respect and modes of active or passive participation. As noted throughout these studies, some of the difficulties stem from preconceived notions about what is considered appropriate or inappropriate behavior in an American classroom.

Given the diverse nature of an ESL classroom, international students have different assumptions about the educational setting. Tomic (1996) believes it is the teacher's responsibility to have more than a casual understanding of the dynamics found in a diverse grouping. She is a proponent of openly discussing differing opinions held by the students. In her study, she listed some of the challenges one faces in an ESL classroom composed of students with diverse backgrounds. At Richmond College in London, where the study was conducted, the students represented over 80 countries. Tomic noted that as individuals with unique reasons for being in an English language classroom (failing to be admitted to a university in the home country, family expectations, professional purposes), there are mixed attitudes toward the language itself as well as a variety of personal goals. She believes understanding the student's cultural backgrounds also helps the students to better understand one another's behaviors in the classroom.

Concepts about order and structure in the classroom also vary among students. Some students are accustomed to highly structured environments while others have received more student-centered instruction. Panel (1987) compared the cultural values of French and British middle and high school aged students and how those cultural values affected their attitudes and behaviors in the classroom. She found the French's sense of order and structure evident in the classroom. Panel further explained:

The French appear to like order, system and structure [...]. French intellectual life maintains a strong line of descent from classical and Renaissance ideas about symmetry and the imposition of order on the chaos of nature. French pedagogy and classroom learning cannot be understood without an understanding of the French intellectual and rationalist tradition (p. 356).

In accordance with the French preference for order, Panel observed a marked distinction in how the students perceived the role of the teacher. In the English classroom, the authority figures included parents and helpers in addition to the



teacher. These students were exposed to a variety of instructional tools such as videos or play. In the French schools, the focus was on acquiring facts in a methodical manner. A French student's quote reflects his need for the teacher's firm guidance, "I wouldn't like to be able to choose because we don't know what's what" (p. 359). This illustrates the expectation of order and structure, particularly with respect to the role of the teacher, found in a French classroom.

Individual learning styles also influence notions about classroom settings. Students hold both their individual preferences for instructional styles as well as expectations formed by cultural factors. Oxford et al. (1992) focused on language learning styles as they directly relate to culture. Their work included six case-study examples of difficulties experienced by international students studying in the United States. Various types of conflict, coined *style wars*, were defined and suggestions for managing some of these difficult situations, such as altering the teaching style to create teacher-student style matching, were offered. Although the six participants shared about the difficulties they experienced, there was little discussion of the reasons *why* the students found the situations difficult.

Unity, as found in a classroom setting, is valued differently among countries. This holds for both indivisibility among students and the relationships formed between teacher and student. The concept of teamwork, rather than functioning as a separate and distinct unit, alters perceptions about classroom instruction and the dynamics between teacher and student. Garner's (1991) work described the Italian's emphasis on unity among students as demonstrated in a classroom. She wrote:

An important practice of the elementary school is that the teacher advances to the next grade level with her pupils, passing through the first to fifth grade cycle with them. Italians justify this practice as producing closer ties between the teacher and pupils. It forms a bridge between the entirely personalistic atmosphere of the home and the more impersonal setting of the middle and upper school, where there are different teachers for different subjects [...]. This practice of course reflects traditional values in Italian society: personalism, continuity of social fabric and security at the price of limited social and psychological mobility (pp. 336-337).

This demonstrates the importance of unity in classroom settings. Further, it exemplifies the view of education, as both a process and an institution, as collaborative in nature.

Verbally expressing ideas and asking questions during class can prove difficult for students unaccustomed to this form of active participation. Liu (2002) interviewed three Chinese graduate students about their classroom communication patterns. Common to each were their feelings of discomfort in

speaking during classes. Liu noted that none of the three integrated into the classroom discussions in the same manner as native English speakers. Rather, their mode of participation ranged along a continuum from conditional, marginal, to silent. Silent observation and absorbing the knowledge imparted during the lecture were valued. Further, Liu distinguishes between silence as a form of power and subordination. Of the quietest among the three participants, Liu wrote, “The power of silence in Nan’s case lies in the internal processing of information at her own pace, thus allowing her to disagree or agree with the teacher or other students without affecting others and without being affected” (p. 48). This demonstrates that silence may be misinterpreted as lack of interest rather than absorbing new material.

Not only do issues of silence and subordination exist, but some students’ perceptions of their classroom participation may not concur with their instructor’s opinion. These students may presume that their attentive behavior is, in fact, interpreted by the teacher as active participation. However, some research suggests that students and teachers hold different definitions of what constitutes active classroom participation. Chu and Kim (1999) explored the perceptions of Asian and non-Asian students’ classroom participation. In order to accomplish this, three types of data were gathered: written observations by two evaluators, self-assessment questionnaires and follow-up interviews. The findings indicated that Asian students have a narrower definition of classroom participation. While all students listed answering the teacher’s questions and giving feedback in groups as types of participation, the non-Asian students listed additional types of contributions such as being helpful, cooperative and asking the instructor questions. Overall, while the Asian students perceived they were participating fully in class, they were actually contributing less according to the observers.

Values, such as self-control and deference to authority, may cause further confusion between teachers and students. When students practice self-control, the teacher may incorrectly interpret this behavior as inattentiveness or withdrawal. Research (Farver et al., 1995) has linked cultural values with classroom behaviors. In their study, they compared an Anglo-American and Korean-American classroom in a preschool setting. Their study examined the cultural influences on the style of social interaction. They noted that “Korean-American children view teachers as authority figures who are to be respected and to be shown deference. This attitude is fostered early in young Korean children, and they are taught to listen to their teachers’ instructions without question” (p. 1097). The findings indicated that the activities in the Korean-American classrooms focused on memorization, task persistence, effort and a passive involvement in learning. The researchers found the nature of the activities to be in accordance with the Korean values of social harmony, group identity and self-control.

Research in the area of classroom dynamics includes not only international students, but also American students who do not come from mainstream backgrounds. Philips (1970) wrote extensively about the difficulties faced by children from the Warm Springs Indian Reservation in

central Oregon who are educated away from the reservation in the public school system. She found that these students performed exceedingly well when given the opportunity to work as a group and, conversely, resisted when asked to participate on an individual basis. Their struggle lay primarily in the mode of instruction. Philips noted “the contexts described here in which learning takes place can be perceived as an idealized sequence of three steps: (1) observation, which of course includes listening; (2) supervised participation; and (3) private, self-initiated self-testing” (p. 387). The Warm Springs Indian children had been raised to learn by observation rather than direct instruction and felt pressured when asked to display their knowledge in front of a group rather than practice privately before demonstrating proficiency. Philips further described how the Warm Springs children were unaccustomed to learning from their own mistakes, particularly in front of other students. She noted that “In the classroom, the processes of *acquisition* of knowledge and *demonstration* of knowledge are collapsed into the single act of answering questions or reciting when called upon to do so by the teacher, particularly in the lower grades” (p. 388). This study illuminates the fact that even students born in the United States face issues of cultural differences in educational settings. Further, students who are required to perform in class may do so at the expense of insightful reflection.

Given the numerous instances of potential cultural clashes between teachers and international students, further research is needed to unveil the underlying values and assumptions held by students. Problematic occurrences are fostered by misunderstandings about appropriate classroom behaviors. In order to shed light on some of these behaviors and assumptions, the following study examines what eight international students view as acceptable or unacceptable classroom behavior.

## METHODS

### *Participants*

Eight international students from a major university in the American southwest were surveyed about classroom etiquette in their home country. All eight participants were graduate students taking coursework in Teaching English as a Second/Foreign Language. Participants originated from Argentina, China, Italy, Japan, Korea, Taiwan, the Ukraine and Vietnam. Length of stay in the United States ranged from five months to ten years. The participants ranged in age from early twenties to mid-fifties. The reasons for their stay in the United States varied from the sole purpose of earning a graduate degree, relocating for political reasons and marriage to an American citizen. All were advanced speakers of English and had completed, at minimum, one semester of graduate coursework. Of the eight participants, two (from Italy and Taiwan) subsequently returned to their home countries. The remaining six (from Argentina, China, Japan, Korea, the Ukraine and Vietnam) either continued their educational studies in doctoral programs or have entered the professional arena.

### **Research Design**

Data collection consisted of a three-part system in which participants completed a questionnaire that ranked particular behaviors, answered open-ended questions and participated in one-on-one interviews. In the questionnaire phase, the participants, using a Likert-scale, ranked ten behaviors from 1 (acceptable behavior) to 5 (unacceptable behavior). Questions covered topics such as cheating, arriving late to class, forms of addressing the professor and methods used to clarify questions during class (See Appendix Part 1). The participants evaluated the behaviors based on how socially acceptable those actions would be in their home countries within the context of a college or university setting.

Eight open-ended questions were designed to elicit responses to describe in greater detail the classroom environment in the participants' native countries (see Appendix 1 Part 2). These responses allowed the participants to elaborate on methods used to seek clarification, ways to show respect, and to further illustrate other classroom dynamics such as error correction and discipline.

One-on-one interviews were conducted with the participants after the questionnaire had been completed. Participants were encouraged to comment further on their survey responses. Responses were recorded in field notes that later provided the interviewer the opportunity to clarify vague responses and to further discuss key issues.

### **Results**

No two participants responded in a similar manner to all questions (see Table 1). All respondents indicated that consuming food or beverages in class constituted inappropriate behavior. Similarly, in the case of using the professor's first name, all participants unanimously classified this as unacceptable (5).

No significant differences were noted between participants' attitudes towards arriving three or seven minutes late to class. All respondents, except the Chinese participant, ranked them either the same or one numerical value higher (toward unacceptable). The respondent from China evaluated a three-minute arrival with a score of three (3); however, she considered arriving seven minutes late to be highly unacceptable (5) behavior for a student.

No distinct pattern was noted between two seemingly related questions about asking the professor questions during class and offering personal comments/views during class. All respondents, except the participant from Italy, deemed asking questions during class as acceptable to moderately acceptable. Three trends were noted when comparing the two questions on classroom participation: deemed equally acceptable, more acceptable, or less acceptable, respectively. While some participants (from Korea, Ukraine, Italy) evaluated the two behaviors the same, three (from Japan, Taiwan, Vietnam) considered offering comments more offensive, while two (from Argentina and China) assigned lower rankings. Table 1 below presents the results obtained.

**Table 1: Participants' Perception of Acceptability of Various Classroom Behaviors.**

	Acceptable			Unacceptable	
	1	2	3	4	5
Asking the professor questions during class	K, V	A	C, J, T, U		I
Eating/drinking during class					A, C, I, J, K, T, U, V
Cheating on an exam	T		A	U	C, I, J, K, V
Leaving class to use the restroom	A	U	C, I, K, V	T	J
Arriving three (3) minutes late to class	A, K	I	C, U, V	T	J
Arriving seven (7) minutes late to class	K	A	I, U	V	C, J, T
Offering personal comments/views during class	A, C, K	V	U		I, J, T
Using the professor's first name					A, C, I, J, K, T, U, V
Responding "I don't know" to a question	J, K	C, T	I, V	U	A
Whispering to a classmate for clarification	A, K	C, I, T	U	J	V
<b>Legend: A=Argentina, C=China, I=Italy, J=Japan, K=Korea, T=Taiwan, U=Ukraine, V=Vietnam</b>					

While the written survey provides insight into the participants' categorical determinations of appropriateness of particular behaviors, the underlying reasons why those determinations were made is not revealed. In order to appreciate the rationale for the responses, one on one interviews were conducted with the participants. The following section illustrates the participants' personal recollections of their educational experiences.

## DISCUSSION

In addition to the broad array of responses in the questionnaire, the comments shared during the interview process varied as well. Participants vividly recalled memories from their undergraduate studies and were eager to share their own stories. Recounting their experiences provided a greater understanding of why the participants responded as they did in the questionnaire. During the interview process, they recollected their understanding of what was deemed acceptable or unacceptable classroom behavior. In addition, the participants recalled personal experiences when either they or other classmates had violated those norms and further illustrated the consequences of those actions.

### *Asking the professor questions during class time*

The participants from China, Taiwan, Italy, Argentina and the Ukraine said they would *never or rarely* ask a question during class time. This was considered impolite and disrespectful classroom behavior. Additionally, this interactive forum was structured differently from the classrooms in their home countries, thereby creating discomfort in this unfamiliar, student-centered environment. According to the participants, the alternatives in a Chinese or Taiwanese class would be to ask other students during the lecture or wait until the class has ended and ask the professor. The Taiwanese participant indicated to her teacher that she did not understand the material by whispering to her classmate. She explained that if enough students whisper, then the teacher knows the majority of students are confused and can choose to revisit the material. The graduate student from China explained:

The teacher does confirm that the material is understood and asks if there are any questions, but the students pretend they understand everything even if they don't. It is acceptable to ask another student because we will hesitate to ask the professor for clarification since it makes us lose face.

This method of indirect communication avoids an affront to the professor and embarrassment by the student. Further, asking for clarification may indicate to the professor that the student believes *the teacher* is at fault and has not provided a clear explanation.

The student from China recalled one occasion when a student asked a question during class time. The professor looked at his watch and told the students that whole class would be detained one minute for every minute required for explanation. He further scolded the student by saying the student should calculate how much *total* time was actually wasted. According to the professor, one minute of explanation is not equal to one minute of wasted time, but rather thirty minutes of time since there are thirty students in this class. Her memory of this event coincides with the other studies in which Chinese teachers were described as formal, serious, stuffy and monotonous

(Su, Su & Goldstein, 1994, p. 260). Recollections made by the Chinese participant further depict Chinese teachers as authority figures who did not wish to be distracted during classroom lectures.

According to the participant from the Ukraine, a student may ask questions, but will hesitate before doing so. She recounted that she would wait until she felt very confused before raising her hand. Asking a question is a poor reflection on the student. The participant explained, "If you don't understand the material covered, it's usually considered your fault, and you don't get any clarification from the professor." As in the story told by the Chinese participant, the burden to obtain clarification is placed on the student outside of the classroom.

Class size was another deterrent to asking a professor questions during class time. The Italian participant described the university environment as intimidating. She explained that, in Italy, the classes at the university level are very large and, therefore, prohibit students from asking questions during class. Contact is further limited because professors in Italy do not hold office hours. A professor may have an assistant, but this is only occasionally the case. A student may ask to meet with the assistant, but this is at the instructor's discretion. Both the Italian and Taiwanese participants explained that they were expected to resolve questions by themselves. However, a difference between the two lies in the interaction between students. In Taiwan, students frequently turn to one another for assistance. Since all information must be gleaned from a lecture in an Italian university setting, one student would never interrupt their classmate for clarification during the lecture. However, helping one another outside of class is greatly encouraged. This corroborates the earlier studies on Italian classrooms which found that students valued unity and collaborative efforts (Garner, 1991).

The Argentinean informant identified two factors that make asking questions prohibitive. First, the student felt she bothered the professor by asking questions. The professor's lecture is already planned out for the class period, therefore instructors should not be asked to deviate from their pre-planned lecture. The participant described the severity as, "a sin to ask a question." Nor do students communicate by e-mail with their teachers as this is also considered a bother to the professor. Secondly, should a student be brave enough to ask a question, they do not wish to appear ignorant in front of their classmates. "There's peer pressure and there's the pride not to make stupid questions."

The survey participants from Korea, Vietnam, Japan described an environment similar to the American classroom. Students raise their hands and wait for the teacher to call on them. It is not necessary to wait until the end of class to ask questions. In Vietnam, students may use an alternative method to raising a hand. Instead, the student may look around the classroom and appear confused. This movement of the head suggests the student is seeking further clarification.

For the participants from China, Taiwan, Italy, Argentina and the Ukraine the custom of asking questions was not considered an additional mode

of access to their professors' knowledge. Rather, they expressed that it served as a limitation since American students clarified unclear points, but these international students were not comfortable operating in a similar manner. Not only was the act of raising one's hand unfamiliar, but also the overall structure of the interactive classroom proved intimidating.

### ***Using the professors' first name***

All of the participants found using a first name to address a professor to be awkward. Of those surveyed, all eight described using the professor's first name as inappropriate behavior and all selected the highest score of 5 (unacceptable). In the Chinese and Italian languages, there are different terms for addressing the professor. In China, Lecturers or Teaching Assistants are called by their last name followed by the title *Lao Shi*. Professors or Associate Professors are addressed by their last name and title accompanied by the title *Jiao Shou*. In addition to sensitivity in title usage, the Chinese informant explained that students must show deference to one's professor by walking one or two steps behind rather than side by side.

Instead of using titles to show respect in the Ukraine, using both the first and last name of the professor indicates respect. The proper order when addressing someone is to use the first name followed by his or her father's last name. This dual-name format must be used every time the student addresses the instructor.

In Italy, the titles used to address a university professor vary according to the position held by the professor. Lecturers and Researchers are referred to as *Dottore* or *Dottoressa*, depending on whether the person addressed is male or female, respectively. Associate Professors and Professors are addressed as *Professore* or *Professoressa*. The students are responsible for knowing the position held and would insult an Associate Professor or Professor by calling him or her by the lesser title of *Dottore* or *Dottoressa*.

None of the participants felt that this was a custom they would soon adopt as it violated norms of politeness and appeared disrespectful. To the participants, this meant that native English speakers who used the professors' first name achieved a greater level of comfort and intimacy with their instructors that international students would never attain. The decision to address a professor with the more polite form served as a limitation since these relationships would remain at a more formal level with professors. Presumably, students who have strong bonds with their professors receive invaluable advice and guidance that others may not have the benefit of receiving. Whether this is a valid claim remains unresolved; however, for the participants, the imbalance between native English speakers and international students with regard to cultivating academic relationships appeared problematic.

### ***Cheating on an exam***

Six participants rated cheating on an exam with a 5 (unacceptable). The Argentinean participant gave the question a 3 (moderate). She explained



that students do not see cheating as anything bad, but the teachers do. In fact, there is an obligation to help one's fellow students on tests and to pass along any information such as copies of previous exams or knowledge about which questions will be on an exam.

In Taiwan, there is a marked distinction between the college environment and a prestigious university. In a college environment, the students will receive terminal degrees and enter the work force. Although the colleges are at a post-high school level, the purpose is more closely related to that of a vocational school. The institutions need to move the students through the curriculum so that new incoming students fill the vacancies. The Taiwanese informant shared that sometimes her professors would even read or leave the classroom during the exam. Given the importance of passing exams, the inherent structure of the testing system allows for cheating to occur. This 'ostrich in the sand' approach is a key component of classroom order and is understood by teachers and students alike. The result of this is a high pass rate. In a classroom setting in which the teacher's actions allow for cheating to occur, all students will successfully pass the requisite exams and make space available for the new students. Without the established structural element, feigned ignorance, the Taiwanese educational system would not achieve its goal of successfully producing numerous program graduates.

### ***Use of discipline in the classroom***

During the data collection interview phase of the study, participants used the terms 'shouting' and 'using silence' most frequently when describing how their teachers maintained order in the classroom. In Taiwan, corporal punishment was outlawed five years ago; however, parents of young college students give their permission for the teacher to use any method of discipline they so choose. The Chinese informant recalled that her teachers would stop talking in order for the class to quiet down and re-focus their attention on the teacher. This emphasis on discipline starts at an early age. Vaughan (1993) describes guidance and discipline in an elementary Chinese classroom:

Respect for the teacher and prompt, unquestioning obedience are expected. They generally appear to be orderly, attentive, hard working and eager to please the teacher. I saw [...] no cases of disrespect or lack of prompt obedience to the teacher's requests [...]. Some of the guidance and discipline methods differ from standard practices in the United States (p. 199).

Further, if teachers resort to shouting, they are considered weak. That instructor will lose the students' respect.

The Vietnamese participant explained that a Vietnamese teacher does not use classroom time to discipline a student. The student must leave the classroom if they are disrespectful and wait in the hallway until the teacher has finished lecturing.

### **Error correction**

Five participants, all from Asian countries, expressed a positive feeling toward error correction, even if it were embarrassing or uncomfortable at the time. Most sentiments expressed contained positive adjectives such as acceptable, good and nice. All participants felt that the teacher's job was to make the student better and error correction was the manner in which to do that. They considered the educational experience to be a time for self-improvement. The Japanese participant shared a proverb which says, "You only get embarrassed once. It stays with you forever, so you won't make the same mistake again." Referring to teachers in China, Vaughan (1993) described discipline as a positive influence in an individual's development:

Teachers do not appear concerned about any possible psychological harm resulting from these practices, such as lowered self-esteem. Rather, they believe such corrections will help the child work harder so as to avoid future mistakes (p. 200).

These shared recollections portray error correction as a venue for personal growth. As evidenced in both the participants' responses and earlier research, this suggests that international students studying in an American classroom may wish to be corrected.

On the other hand, the Italian participant viewed error correction as negative. She explained that error correction in the university environment occurs exclusively during final exams. Since the classes are so large, one of the only instances of interpersonal communication is during the exam period. All exams are oral; hence, any correction expressed indicates that the professor disagrees with the student's position. If enough instances of correction take place, the student is asked to leave the oral exam and must reschedule at a later time or date. Being asked to return at another time is particularly stressful for the student because the exams are scheduled over several days. Students are assigned numbers and must wait until their number is called. They wait in large auditoriums from 8:00 a.m. to 8:00 p.m. The Italian respondent recalled finally being called into the exam room at 6:30 p.m. at the end of the third day. Hence, receiving any error correction during the exam stage indicates the possibility of repeating this grueling exam process over again.

Depending on the pedagogical approach embraced by the teacher, overt correction may or may not take place in all classrooms. Students who are corrected may view this as facilitating the learning process (Oxford et al., 1992), receiving guidance and encouragement (Garner, 1991), being chided, or at some point along this continuum. Conversely, if students are not corrected, they may infer that they are producing correct English, interpret the absence of corrective action as a lack of interest or authority on the part of the instructor (Planel, 1987), or feel relieved that they are not corrected in front of classmates. This third view, shared by some members of the Warm Springs Reservation (Philips, 1970), allows for alternate modes for demonstrating

proficiency. These modes allow students to initiate participation at a time when they feel sufficiently prepared to demonstrate their proficiency rather than at the instructors' request. The many views on error correction illustrate the complex dynamics evident in the multicultural classroom.

### ***Promptness***

All study participants did not view arriving on time to class as equally important. The Japanese informant described the protocol for late arrivals as quite formal. She explained that if students arrive late to class, they may not enter the classroom without the teacher's permission. The students must knock on the door and wait for the professor to decide if they may enter the classroom. The participant said she usually arrives five to eight minutes before class starts. The Chinese participant explained that in her country, "being on time is greatly valued and you will be embarrassed while everyone is looking at you." In Argentina, Italy and Korea a late arrival would not offend cultural values. Again, due to the large class size in the Italian universities, a late arrival is not noticed.

It is important to note that not all Asian participants responded in a similar manner to the question about promptness. The participants from China, Japan, Taiwan and Vietnam viewed tardiness as moderately (3) to very unacceptable (5). However, the Korean participant scored arriving both three and seven minutes late as acceptable (1). These varied responses discount the notion of all Asian students as alike. This narrow portrayal of Asian students does not account for different personalities and social bearings (Farver et al., 1995), individual learning styles (Oxford et al., 1992) and approaches to classroom participation (Chu & Kim, 1999; Liu, 2002). This illustration of Asian students as having similar personalities is not limited to only the classroom setting. On a broader scale, Asian students are frequently profiled as a homogeneous group without regard to cultural, linguistic, geographical and historical differences.

### ***Greatest Difference between Classroom Etiquette/Environment***

When asked what the participant found the most surprising/interesting/shocking about an American classroom, each gave a different answer. The Taiwanese participant was most surprised when she saw students eating in the classroom. "That's so weird," she said. Only the teacher may drink during class time. One student is even assigned to prepare the professor's tea each semester. The teacher specifies how they would like the tea prepared; hot or cold, black or green. The designated student will have the tea waiting for the professor. They will sip the tea only when the students are engaged in work on their own. Their back is normally turned to the students when sipping the tea.

The Italian participant was shocked the first time a professor called her by name. Outside of the formal oral exam environment, she had never been addressed by a professor, let alone referred to by name. Instead of feeling flattered, she expressed that it made her feel uncomfortable. She felt she had

lost her privacy. She described her feelings of discomfort as, “against [her] habit.”

The informality and ability to ask questions was a change for the Argentinean participant. She shared that she is just starting to raise her hand, but struggles because she fears she will be reprimanded. As mentioned earlier, she used the word ‘sin’ to describe asking a question in class.

The Chinese participant’s greatest area of difficulty was with the classroom discussions in which the students were expected to take part. She felt that, “In China, the professors do most of the work, but here the students do most of the work.” When asked if she learned from her classmate’s contributions, she expressed that she did not. She came to “learn from a professor not another student.” This sentiment is mirrored in Chan’s (1999) illustration of the Chinese learner’s expectations and learning styles which have been influenced by Chinese culture. She explained:

Confucianism encourages the Chinese to respect hierarchical relationships between individuals so that the teachers are expected to teach as well as guide students. Many would feel that ineffective teaching is taking place if they are continually asked in class to express their opinions or to solve a problem by themselves (p. 301).

Therefore, the teacher is viewed as the authority figure who guides the class’s progress. Given this hierarchical structure, students rarely question this authority in China.

In Japan, all assignments are completed on an individual level. The Japanese participant found it very difficult to work with other students on group projects. She felt that she learned much more when she worked on her own and that she frequently encountered an uneven distribution of effort within the group. She found this particularly true at the graduate level where, “the students are very strong-minded. We had bad group dynamics.” She found this to be true even when all the group members were Japanese.

The Vietnamese native welcomed the American teacher’s friendliness. He felt very encouraged by many of his teachers and attributes their outgoing personalities to his academic success. He also admires it when teachers admit that they do not know an answer. In Vietnam, the teacher is a “model person and must know everything.” As a result, a professor does not admit to weaknesses, such as not knowing material. This is another source of inspiration for him since he does not feel the burden of having to know everything covered in class.

The difference in the style of dress surprised the Korean respondent. In her home country, professors always wear suits. She explained that there is a great emphasis on the formality of dress as a general rule in Korea. Even high school teachers are required to wear ties. The casual clothing of the American students is also different from the Korean students’ mode of dress. She shared that she is reminded of bedroom slippers when she sees the

footwear the Americans wear. However, she views this difference as a positive reflection on the “simple and easy life” enjoyed in this country.

The participant from the Ukraine had never heard a professor addressed by his or her first name before she came to the United States. She does not think she will “ever, ever call a teacher by their first name. Not until I die would I do this.”

These varied responses call attention to the diverse assumptions made by international students. As evidenced by the stories shared by the participants, these international students hold different expectations about classroom order and structure (cheating, discipline, error correction), cultural values of deference, unity and respect (forms of address, promptness) and active participation (asking questions). These notions about classroom dynamics illustrate how misinterpretations about behaviors easily and readily occur. The only hope for bridging these misunderstandings is for teachers and students to become more sensitive to the multitude of factors at play.

## CONCLUSION

Most ESL classrooms are comprised of a markedly diverse student population. As seen in the varied responses and personal recollections, each member of an ESL classroom brings their own understandings and expectations of what is deemed appropriate or inappropriate in a classroom. Based on these understandings, students will behave accordingly. Only after time and exposure to American classrooms, might these behaviors begin to change. Further, each student will adapt in a unique manner and at his or her own pace, if at all. However, during this transitional period, teachers may brand international students as rude, inconsiderate, or inattentive. Since many instructors include participation as one factor when evaluating student performance and calculating final grades, points for lack of participation (as viewed by the instructor) may be deducted. As a result, these misunderstandings can adversely affect the students’ academic standing. These difficulties extend to awkward interactions with professors, assumptions about cheating and students’ expectations about error correction and forms of discipline.

It is this myriad of potential difficulties (misinterpretations of behaviors and the resulting detrimental effect on grades) that necessitates further research into the area of classroom etiquette. While this study presents the perspectives of eight international students, the number of participants is quite limited. Subsequent studies using a larger pool of participants would expand and enrich our insight into the experiences of our non-native students. A second limitation of this study is that only one student from each country was interviewed. Gathering insight from several members of the same country would offer a broader representation of their learning backgrounds. Understanding multiple perspectives, whether shared or dissimilar, offer ESL teachers a keener sense of the range of possible learning experiences.

In addition, a comparison of Asian countries may help to dispel the myth that *all* Asians form a homogeneous group. At present, the literature portrays the Asian community as a single, cohesive entity. This overgeneralization misleads the instructional community to make false presumptions. As evidenced in this study, no two Asian participants responded in a similar manner to the study questions. Therefore, it follows that students' classroom behaviors cannot be interpreted in the same manner. A comprehensive, contrastive study, with a limited scope of only Asian cultures, could prove useful in providing background into the variety of the cultural norms that influence classroom behavior.

With more extensive work in this area, teachers will become more capable of understanding and even appreciating, the multitude of behaviors manifested in their classrooms. With this insight, teachers then have a starting point for discussion with their students about appropriate and inappropriate behaviors in American classrooms. Empowering students with this knowledge will ease the transition in adapting to a new environment, thereby benefiting both students and teachers. Rather than placing an additional instructional burden on teachers, discussing these issues will create a more positive classroom environment, which will, in turn, enhance learning.

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## APPENDIX I

### Survey of Classroom Etiquette

My home country is \_\_\_\_\_

Part 1 - Please rate the following in-class behaviors from: Acceptable (1) to Unacceptable (5). Answer as if you were a student in your home country.

- |           |   |
|-----------|---|
| 1 2 3 4 5 | Asking the professor questions during class time.                 |
| 1 2 3 4 5 | Eating/drinking during class                                      |
| 1 2 3 4 5 | Cheating on an exam   |
| 1 2 3 4 5 | Leaving the classroom to use the restroom                         |
| 1 2 3 4 5 | Arriving three (3) minutes late to class                          |
| 1 2 3 4 5 | Arriving seven (7) minutes late to class                          |
| 1 2 3 4 5 | Offering your personal comments/views during classroom discussion |
| 1 2 3 4 5 | Using the professor's first name                                  |
| 1 2 3 4 5 | Responding "I don't know" to a question                           |
| 1 2 3 4 5 | Whispering to a classmate for clarification                       |

Part 2 – General questions

- 1) How do you demonstrate to the teacher that you are attentive? Is this even important to do?
- 2) What kind of discipline is used in the classroom?
- 3) If you do not understand something in class, how do you get clarification? Does the teacher confirm that the material is understood by all?
- 4) How do you feel about direct error correction?
- 5) How do you show your teacher respect?
- 6) What indicators tell you that class has begun/ended?
- 7) Is humor used in the classroom?