

The three chosen topics are as follows:

Professor Madelaine Albright (Secretary of State in Clinton's Presidency)

Professor Albright (Professor of History) addressed a group of educators at the French Embassy in Washington D.C. She is highly intelligent, wise and articulate. It was a privilege to be in the presence of someone who cares so deeply about humanity.

She spoke about the history of what she calls, "the race between a catastrophe for humanity and providing the right kind of education."

She says we urgently need to teach people how to disagree agreeably. She also highlighted the disastrous consequences of a sense of entitlement, especially among the youth.

Appendix 1 is a summary of her Address.

Dr Leonard Sax (a Medical Doctor who also has a Ph.D. in Psychology)

This was a fascinating presentation entitled, "Why Gender Matters," based on a recently published book of the same title. I recommend it. (ISBN 0-383-51073-X)

He spoke at the International Coalition of Boys' Schools Conference in Washington D.C. Dr Sax brought the delegates up-to-date with current research on female and male brains and how they process basic sounds, sights and emotions differently.

I wish I had known more of what he documents when I was a young father, husband and teacher. The Attachment gives some details from each Chapter that you might find interesting and relevant to your own lives.

See Appendix 2

Professor Michael Shayer (A world-renowned educational researcher)

I spent some time in Cambridge with Michael Shayer, an educational mentor of mine whom I have been very fortunate to know and work with for the past twelve years. He has developed and tested some powerful academic interventions that dramatically increase the cognitive development of learners by improving classroom practice.

The Attachment gives some insight into his research and how it applies to the classroom of the 21st Century.

St Stithians as a world-class school offers its Staff real opportunities for professional and personal growth. Encouraging them to travel and experience conferences, such as the one that I had the privilege of attending, bears testimony to this. I was proud to be in Washington and witness our two Psychologists, Sue MacKenzie and Sean Tunmer, present a Paper, which was so keenly anticipated, that some delegates had to be turned away. Jill Worth also presented a Paper at the 12th International Learning Conference in Granada, Spain on her experience and research in the field of Co-operative Learning. This created great interest and elicited very positive feedback. See Appendix 3

Madelaine Albright: DEMOCRACY

Professor Albright is currently Professor of History in Washington D.C. When she became Secretary of State she said, “ I had my partisan interests as a lifetime Democrat surgically removed! But now some of the bits are growing back.”

She is interested in what she calls, “the history of the race, between catastrophe for humanity, and providing the right kind of education.” She is of the opinion that we were not providing enough of the latter.

An understanding of democracy is critical to provide “the right kind of education.”

Two principles are necessary to create a true democracy:

- Each individual is valuable and counts.
- Boundaries must be set that create the space within which individuals can exercise their individual freedoms.

Society must teach the skill of how to disagree agreeably. She calls it “civility.”

As far as the war on terrorism is concerned it is not enough to say that we are **against** terrorism – we have to say what then are we **for**?

Four parts of what make up her “axis of evil.”

- Poverty
- Ignorance
- Disease
- A sense of entitlement (particularly amongst the youth)

Furthermore, democracy cannot survive without a substantial “middle class.” The problems of ‘**people of plenty**’ vs ‘**plenty of people without hope**’ is too extensive. Often we are “modernizing” without “civilizing.”

In Professor Albright’s opinion the greatest duty of a patriot and an educator is to ask questions. We must train our students to ask questions and relentlessly pursue their answers with civility. She believes that this generation must leave a legacy of this kind of democracy or there might well be a catastrophe.

Leonard Sax M.D. Ph.D. :

WHY GENDER MATTERS

Chapter One – Differences

“We are entering a new period of Science, in which the rewards will come less from the breakthrough investigations of individual Scientists than from fitting together the pieces of research to see what it all means... Social and biological insights are leaping together, part of a large and complex jigsaw puzzle to which the contributions of many Sciences are essential.”
(Professor Shelley Taylor, Psychology Department, UCLA)

Findings include:

- Teenage girls today are four times more likely to drink than their mothers were. They are fifteen times more likely to use drugs than their mothers were! Alcohol and drug abuse used to be more of a problem for boys, now girls have also entered the equation. However, boys under-eighteen are still five times more likely than girls to be arrested for drug abuse.
- Today's boy is much more likely to be struggling at school than his father*. Over the last twenty years there has been a dramatic decrease in the academic performance of boys in American schools. The average 11th Grade American boy writes at the same level as the average 8th Grade American girl. Already some of the American Colleges and Universities are more than 60% female. School is the new problem for boys.

*See latest educational results released, August 2005, in the United Kingdom

Chapter Two – Female Brains, Male Brains

Male and female brains process sounds differently.

Findings include:

- A male brain uses a much smaller proportion of the brain to process sound. Girls' hearing is substantially more sensitive than boys' especially in the 1 000 to 4 000 Hz range. This is important for speech discrimination, especially in the classroom.

Male and female brains process sights differently.

Findings include:

- Gender differences in the anatomy of the eye.
- The proportions of P (parvocellular) ganglion cells and M (magnocellular) ganglion cells in male and female retinas cause clear differences in their thickness. Because the female retina is rich in the P cells, (P cells answer the question: “What is it?”), while the larger M cells, (M cells answer the question: “Where is it now and where is it going?”) predominate in the male retina.
- Girls see in nouns, boys in verbs. This is one way of thinking about the consequences of retina thickness. Examine the drawings of 7-year-old girls and boys carefully if you want to get some idea of the difference.
- This also causes differences in how girls' and boys' brains work when they are learning topics such as Navigation or Geometry.

Male and female brains process emotions differently.

Findings include:

- Negative emotional activity seems to be localised in the amygdala. This is for all seven year-olds the part of the brain that does the talking. It is located in the cerebral cortex, and has few connections to the part of the brain where an emotion is occurring. In adolescence a larger part of the emotional activity moves up to the cerebral cortex, but only for girls! This is why teenage boys struggle to talk about how they are feeling and teenage girls do it relatively easily.

Chapter Three – Risk

Boys enjoy taking risks.

Findings include:

- Most boys are impressed by other boys who take risks, especially if the risk taker succeeds. Girls may be willing to take risks, but they are less likely to seek out risky situations just for the sake of living dangerously.
- Boys are much more likely to engage in physically risky activities. If they are hurt they erroneously attribute their injury to “bad luck.” They are less likely than girls to tell their parents and it is very likely they were around other boys at the time the injury occurred.
- Most young girls need some encouragement to take risks, and to raise their estimation of their own abilities. Many girls suffer from “learned helplessness” as a consequence of not taking the right kind of risks.
- With boys it is important to have as many “supervised” risk-taking opportunities as possible. Unsupervised boys together are often a real danger to themselves. As a rule encourage a boy to play any organised sport (even the rough ones), but do not let a boy practise his skateboarding with his mates in the road!
- It is important for boys that you assert your authority with them when they take dangerous and “unsupervised” risks. Do not argue with them. Do not negotiate with them. Just do what you need to do. (You may have to lock up bikes etc.)

Chapter Four – Aggression

Findings include:

- A boy with a reading problem does not always need to spend his holiday addressing this specific problem. Sometimes if he can experience success in some other activity, something that requires a physical skill or courage perhaps, it can have a positive spin-off on his reading.
- Boys fight physically about twenty times more often than girls do. Boys, however, find many friends through fights. Picking a fight can be a way of relating to another boy. Controlled aggression can have positive outcomes for boys. This is not true for girls.
- Boys, who act aggressively when provoked, usually raise their standing in the eyes of other boys, as long as it is not bullying. Conversely, girls who respond to provocation with aggression may lower their standing in the eyes of their peers.

- There is evidence that some of these differences are biologically programmed. The “rough and tumble” activities of boys are not socialised behaviours. In fact, there is evidence that “rough and tumbling” as a young male can reduce their aggression as an adult male. They learn the rules of the game of life in this way.
- Aggression between girls destroys their relationships. When boys and girls interact their styles can often clash. The proverbial boy pulling on a girl’s pigtail is the boy trying to make friends!
- Affirm the “Knight” in boys. You can turn a bully into a “Knight” if you get him to value himself.
- Pain is processed differently by male and female brains. Males and females perceive pain differently. Stress reduces the male’s pain awareness and increases the female’s pain awareness. There are already different pain relievers on the way for the different genders!

Certain studies have concluded that there may be traits, which typify bullies. These are not entirely conclusive and there may be many exceptions.

Girls who typically bully...

- Have many friends
- Are socially skilled
- Act in groups to isolate a single girl
- Are doing well in school
- Know the girls they are bullying

Boys who typically bully...

- Have few friends
- Are socially inept
- Act alone
- Are doing poorly in school
- Do not know the boys (or girls) that they bully

Chapter Five – School

Both boys and girls are being short changed at school.

Findings include:

- Girls generalize the meaning of their failures because they interpret them as indicating that they have disappointed adults, and thus are of little worth. Boys, in contrast, appear to see their failures as relevant to the specific subject area in which they have failed; this may be due to their lack of concern with pleasing adults.
- Sex differences in how students relate to their teachers give rise to sex differences in motivation to study and in the weight that students give to their teachers’ opinions.

- Girls are more likely to do their homework, even if the particular assignment does not interest them.
- Boys will consult the teacher for help only as a last resort, after all other options have been exhausted. Males will more than likely study alone. This is a real problem if one understands what the Russian Psychologist Vygotsky's work tells us about how we learn.
- When girls are under stress they want to be with their friends more. Their friendships are more intimate. When boys are under stress they usually just want to be left alone.

	Girls	Boys
Friendships form among...	Two or three girls	Two to twelve boys
Friendships focus on...	Each other	A shared interest in a game or activity
Games and sports are...	An excuse to get together	Central to the relationship
Conversation is...	Central to the relationship	Often unnecessary
Hierarchies..	Destroy the friendship	Build and organise camaraderie
Self-revelation is...	A precious badge of friendship	To be avoided if possible

These differences are relevant to education for many reasons. The chief one is that boys and girls relate to teachers differently.

Findings:

- Boys can be friends with the coach but it is more difficult for them to be friends with the teacher. A girl student may actually raise her status in the eyes of her friends if she has a close relationship with a teacher, especially if the teacher is young.
- Girls' friendships work best when the friendship is between equals. Boys, on the other hand, are comfortable in an unequal relationship, even if they are the lesser party. With boys the hierarchical character of a relationship can define and even ennoble the friendship.
- Generally, when helping a girl, smile and look her in the eye.
- Generally, when helping a boy, sit next to him and spread the materials in front of you so that you are both looking at them, shoulder-to-shoulder.
- Confronting a boy with a louder voice often helps to discipline him. With a girl it does not work so well.
- Boys enjoy collaborating together as a team to win competitions. It is one of the strategies to get them to use group learning to its potential.
- Girls do better in exams if the stress levels are lowered. With boys it is the opposite. But it must only be moderate stress levels if it is to help the boys.
- Research is now showing that areas of the brain involved in language and fine motor skills mature about six years earlier in girls than boys; the areas involved in targeting and spatial memory mature about four years earlier in boys than girls.

- **Sex differences in childhood are larger and more important than sex differences in adulthood.**
- Boys in Grade 000 – 0 are behind girls in fine motor skills. Sadly for boys there is more and more reading and writing being taught at this level. The boys are being made to feel inadequate from the age of 3! Boys are very aware if they are put in the “dumb” group and they do not like it. This can easily lead to anger and a dislike of school. Tantrums will abound. Medication is often sadly, “the solution.”
- Girls in the Middle School Mathematics Curriculum do much better when it is more connected to the real world. They use their cerebral cortex more for geometry and “pure” Maths functions. The cerebral cortex is where language and higher cognitive functions are mediated in the brain.
- Girls and boys like to read different things. We know this!
- 95% of Grade 0 – Grade 3 teachers are women.
- Girls on average comfortably outperform boys in school (and the gap is widening) in most subjects and in all age groups. You would expect that girls would be more self-confident about their academic abilities, but that is not the case. Girls are more excessively critical in evaluating their own academic performance. Boys, on the other hand, tend to have unrealistically high estimates of their own academic abilities and performances.
- Girls need to be encouraged and you need to constantly build them up. Boys need regular reality checks. You have to make boys realise that they are not perhaps as good as they think they are and challenge them to do better.
- Every child (boy or girl) thinks perfectly. But each one at their own developmental level.
- The best way to break down gender stereotypes is to embrace gender differences.

Chapter Six – Sex

Findings include:

- Contemporary culture encourages precocious sexuality. Too often popular culture and peer groups, rather than parents or responsible adults, call the shots in contemporary teenage life.
- The type of intimacy most common among teenagers today - “hooking up” - feeds into the worst kind of male and female sexuality.

“Hooking up” means being physically intimate with the understanding that no romantic relationship is implied and none is expected.

- In the USA oral sex is now just a racy version of spin the bottle. There is a strong shift from personal sex to impersonal sex.

- In females the neuro-chemical basis for both love and sex involves the hormone oxytocin. This is the same hormone released when a mother breastfeeds her baby. In males the hormone underlying sexual attraction is testosterone. This is the same hormone that mediates the aggressive drive.
- For women sexual experience “happens” more in the cerebral cortex and is, therefore, more connected with the rest of what is going on in their minds. For men, more activity is shown at the base of the brain, in the thalamus and especially the hypothalamus.
- The motivation for sex is fundamentally different for most teenage boys compared with teenage girls. Boys want to have sex to satisfy sexual desire. It is a gut-level, base of the brain impulse. They will often not think of the emotional consequences of sexual activity. This is perhaps not so for girls. Female desire for sexual activity usually aims beyond the activity toward other outcomes and consequences.
- Boys and girls are sometimes partly or totally drunk when “hooking up.” Boys are often getting drunk to relax. Girls are often getting drunk because it numbs the experience of “hooking up” for them, making it less embarrassing and less emotionally painful.

Today we have both an alcohol **and** a sex drenched teen culture.

Findings include:

- Even though many of us think of teenage romance as something that interests girls more than it interests boys, it’s the boys, ultimately, who will have greater need for an intimate and durable romantic relationship in their lives. Girls have much more of a support structure through their friends than boys do.
- Early sexual activity does a lot more harm than good. Parents need to understand the rules that should be applied.

Guidelines are:

- Know where your teen is. Check. Even in the middle of the day.
- Know who your teen is with and what he is doing. Even at home. Check.
- Know everything about any “party” your teen goes to. Check.
- For girls only: no more than 3 years between your daughter and the oldest boy in the group when socializing.
- For girls: encourage ‘girls-only’ activities. This does not hold as easily for boys, unfortunately. They need more “supervision” in any ‘boys-only’ activity. When you enforce prohibitions offer alternatives.
- For boys: cross-generational community services are very good for them. For example, boys doing real work even in rugged conditions, shoulder-to-shoulder with adult men who are good role models, can produce great results. Boys will often describe these experiences as the most meaningful experiences of their lives.

Chapter Seven – Drugs (Alcohol is a drug)

Girls and boys on the whole turn to drugs for different reasons.

Findings include:

- Girls use stimulant medications to lose weight. They use drugs like Xanax to relieve stress and to calm down. Girls with a low self esteem, can use drugs, because their friends are doing it.
- Boys who abuse drugs are often looking for a thrill. They like the excitement of doing something dangerous.
- Boys often buy illegal drugs from strangers. Girls often buy most of their drugs from people they know.
- Girls are sixteen times more likely than boys to say they smoke to keep their weight down.
- Drug prevention and treatment programs need to recognize the gender differences.
- The number one risk factor for girls and drugs is a lack of self-esteem. Number two is depression. Stress levels cause a lot of depression in girls.
- The danger of drugs and stories about the consequences of their use does not on the whole deter boys. It does make a difference with girls. Boys can have their interest stimulated by scare tactics.
- With boys involvement in over-competitive sports seems to increase the likelihood of alcohol abuse. This is not true for girls!
- Boys often do drugs because they are sensation seeking or sometimes because they want to look cool among their peers by taking risks.
- With boys only strict and consistent discipline works. Do what is necessary to prevent them from taking drugs. Remove privileges. Stop their mobility and independence. Change their peer groups. As a family eat meals together. Make the suppertime compulsory. Encourage boys to find healthy ways of taking risks. Usually by participating in supervised sports or outdoor adventures.

Chapter Eight – Discipline

“I was so concerned about being a friend that I sometimes forgot to be a parent.”

Findings include:

- Roughly between the years 1940 and 1990 there has been a transfer of authority from parent to child. In 1950 the parents would choose the school for their child. By 1990 that was no longer the norm. It has resulted in: More fat kids; more teenage sex; more teenage criminals (and therefore adult criminals.)
- The loss of this parental authority has led to “status uncertainty” for both parents and their children. Another consequence of this relocation of power is an informalisation of relations between the generations. Unfortunately this transfer of authority over the last 50 years has not led to more responsible children.
- Most children prefer the certainty of the pleasure they know to the uncertainty of something they have never experienced. This is where the parental authority is needed. Children need to be told to engage in healthy exercise and challenging opportunities.

Some suggested guidelines:

- Discipline should start as an infant.
- Any punishment must fit the crime, the gender and the age.
- Girls respond to 'warm and fuzzy' discipline that involves a more cognitive approach. It often helps develop their social skills. Boys often respond to strict authoritarian discipline. It can help develop their social skills.

Parenting is not easy. There is no one-size-fits-all generally. You however cannot duck the issue of discipline.

The Final Chapter – Beyond Pink and Blue

Adults need to get serious about the question of gender. They need to accept the responsibility of helping children to develop a pro-social meaning for masculinity and femininity...the result of our society's indifference to the deep meaning of sexuality is sometimes resulting in social chaos.

For the past thirty years, any suggestion that there are innate differences between girls and boys, in how they learn and think or interact with one another, has been viewed in many quarters as chauvinistic backsliding. We have been indoctrinated in the dogma that girls and boys should be taught the same subjects in the same way at the same time.

We must create a society that has the courage and the wisdom to cherish and celebrate the innate differences between the sexes, while at the same time enabling equal opportunities for every child of both genders.

Professor Michael Shayer:

21ST CENTURY LEARNING STRATEGIES

Michael Shayer's research over four decades has focused on what makes for "good practice" in the classroom and how does an effective educator maximise the cognitive development of each child.

For Shayer it is imperative that the emphasis shifts from teaching to learning. Rather than a "Dickensian" model of teaching the priority in a 21st Century classroom needs to be on how individual students learn.

His intervention programmes build on the research findings of prominent educational psychologists such as Piaget, Vygotsky and Feuerstein, among others.

Piaget

The understanding that Piaget gave of the cognitive development process is still regarded as the best scientific measure of this aspect of human intelligence. Indeed, his work is as relevant today as it was in the early part of the last Century.

Piaget's measurement of cognitive development levels is as much a breakthrough in educational terms as was the measurement of Absolute temperature on the Kelvin Scale, in Physics.

Shayer and others extensive and exhaustive research has determined that Piaget, despite his brilliance, made one simple but major error. He assumed that **all** people achieve what is called, "**Formal Operational Thinking.**" We now know that about two thirds of the adult population in the U.K. do not achieve this advanced level of cognitive development. Shayer believes that our current system of education is not helping to develop the learners cognitively to their individual potential, whatever that may be.

Shayer's research demonstrates that for a "normal" class of 14 year-olds there is a 12-year cognitive development spread. This has a profound impact on "good practice" and classroom methodology.

There is still sadly a "deficit discourse" going on among many educators. Teachers are too often talking about what learners **cannot** do, rather than what they **can** do.

I will always remember Professor Shayer, in 1994, saying to me: "Every child thinks perfectly. You just need to listen to that child at their cognitive developmental level to understand them."

Vygotsky

The work of this Russian Psychologist was conducted at roughly the same time as Piaget, but it was only fairly recently translated into English. Vygotsky is now well known in educational circles for his, "Zone of Proximal Development" theories.

"Teaching is listening, learning is talking," helps to explain what the work of Vygotsky means to the classroom teacher. A learner's comment that, "you speak things out **with** others until you understand," helps us to understand what Vygotsky's work reveals about cognitive strategies. This is particularly relevant to maximising the learning opportunities for boys in the classroom.

The social power of learning with your peers is also emphasised by Vygotsky. The understanding of the relatively weak power of "teacher telling styles" needs to inform practice in the classroom.

Feuerstein

The Israeli Psychologist, Feuerstein, illustrated that interventions which are going to have a permanent impact on the cognitive development of learners, needs to be deliberate and implemented for a minimum of two years.

CASE and CAME (Cognitive Acceleration through Maths and Science Education)

Michael Shayer and his team of researchers have developed and tested many intervention programmes for cognitive development from Grade 1 to Grade 9. They are in the learning areas of Mathematics and Science.

This is for two reasons.

- Firstly, if one desires to change the rate of a child's cognitive development, it is best to do it in the school curriculum and not as an "add-on."
- Secondly, inherently Mathematics and Science have a clear hierarchical cognitive structure within them and can, therefore, be used very effectively to manage tasks in classrooms that can accommodate the 12-year gap in the cognitive functioning of the learners.

The results using these interventions are very exciting: not only for maximising the potential of the learners, but also in the development of educators.

Professor Shayer's latest post-intervention measurements against a controlled group using thousands of learners, shows the controlled group with fewer than 33% reaching ***Formal Operational thinking**, versus the group that experienced the intervention programme, having over 65% reaching ***Formal Operational thinking**.

These increases are permanent. The same levels of improvement are also measurable in the G.C.S.E. results obtained by these learners.

The 21st Century heralds a new era of understanding and possibility with regard to learning. With work such as the nature of Michael Shayer's research, education has infinite possibilities for improvement.

***Formal Operational Thinking** (as opposed to Concrete Operational Thinking)

Some examples of this level of thinking: the ability to use abstract thinking; the ability to use models and the ability to design experiments involving the control of variables to test hypotheses. Also the ability to make sense of some of the apparent paradoxes of life.