Developing a Champion Learner

Yasmina Hage
Healthy Weight Coordinator
Country Health SA

Rick Baldock
Project Coordinator *eat well be active*
- Primary School Project
Session outcomes

• To review quality practices that enhance learning
• To focus on the positive effects of healthy eating on learning and
• To provide practical activities for classroom practice
Students learn best:

- through a multi-sensory approach (hear, see, say and do);
- when the material is authentic and meaningful;
- when they are emotionally engaged and given opportunities for reflection;
- through social interaction and collaboration;
- when the material is challenging but achievable;
- when the feedback is positive, specific, timely, and learner-controlled;
- through novelty and repetition;
- when the material is developmentally appropriate and student-centered;
- when the material is presented sequentially and holistically, rather than randomly and in sub-parts;
- through a variety of teaching strategies.

Jensen’s Seven Golden Maximizers for Learning

1. Physical activity (voluntary, gross motor)
2. Novel, challenging, and meaningful learning (that includes contrast to the everyday)
3. Coherent complexity (not chaotic)
4. Managed stress levels (not boring or distressful)
5. Social support (at home, school and community)
6. Good nutrition (balanced and healthy)
7. Sufficient time (not rushed, plenty of sleep)
Fuelling a Champion Learner

Nutrition and Learning
The Questions....

- What do we want healthy eating to do for our students?
- How can we optimize a child's eating menu to help them learn?
- What would an ideal diet of a champion learner look like?
A child’s brain

- Children's brains are built differently depending on what they are fed when they are rapidly growing.

- Healthy brains are about 60 percent structural fat (not like the flabby fat found elsewhere in the body).

- As the brain grows, it selects building blocks from among the fatty acids available in what the child eats.
A child’s brain

• The most prevalent structural fat in the brain is DHA (docosahexaenoic acid), one of the omega-3 fatty acids. DHA is also a major structural component of the retina of the eye.

• A large number of studies have suggested that low DHA levels are associated with problems with intelligence, vision, and behaviour.
Fatty acids

- The body needs two kinds of fat to manufacture healthy brain cells.

- These are omega 6 fatty acids (found in many oils, such as safflower, sunflower, corn, and sesame oils) and

- Omega 3 fatty acids (found in flax, pumpkin seeds and walnuts, and coldwater fish, such as salmon and tuna).
Fatty acids

Just how important is DHA for brain development? Consider these research findings:

• Infants who have low amounts of DHA in their diet have reduced brain development and diminished visual ability.

• The increased intelligence and academic performance of breastfed compared with formula-fed infants has been attributed in part to the increased DHA content of human milk.
Fatty acids

- Cultures whose diet is high in omega 3 fatty acids (such as the Eskimos who eat a lot of fish) have a lower incidence of degenerative diseases of the central nervous system, such as multiple sclerosis.
Fatty acids

- Experimental animals whose diets are low in DHA have been found to have smaller brains and delayed central nervous system development.

- Some children with poor school performance because of ADD, have been shown to have insufficient essential fatty acids in their diet.
Fatty acids

- Western diets contain too much of the omega 6 fatty acids and too little of the omega 3's.

- Omega 3 fatty acids are found in ground flax seeds and flaxseed oil, coldwater fish (primarily salmon and tuna), canola oil, soybeans, walnuts, wheatgerm, pumpkin seeds, and eggs.
Iron and learning

• Iron appears to play a vital role in concentration.
• Iron is needed in the body for the formation of haemoglobin (which carries oxygen around the body) in red blood cells.
• Low iron can lead to anaemia, and this condition can impair your child's learning ability.
• Iron-rich foods include red meat, chicken, fish, legumes and wholegrains and fortified cereals.
Zinc and brain development

- Zinc is essential for brain development and function.
- An inadequate intake of zinc can lead to a direct impact on brain growth.
- Foods which are rich sources of Zinc include meat, chicken, fish, eggs, nuts and legumes.
Carbohydrates

• Carbohydrates are the brain and body’s preferred fuel source.
• All carbohydrates are broken down into glucose.
• The glycaemic index (GI) is a way to rate carbohydrates according to how quickly they are absorbed and raise the glucose level of the blood.
• Foods that contain carbohydrates include bread, breakfast cereals, rice, pasta, legumes, corn, potato, fruit, milk, yoghurt, sugar, biscuits, cakes and lollies.
Carbohydrates

- Carbohydrates that break down quickly during digestion have the highest glycaemic indexes.
- These high GI carbohydrates give a ‘quick hit’.
- The blood glucose response is fast and high.
- These include soft drinks, lollies, white bread, corn flakes, highly refined carbohydrates.
Carbohydrates

- Carbohydrates that break down slowly release glucose gradually into the bloodstream.

- They have low glycaemic indexes.

- The blood glucose response is slower and flatter.

- Energy, attention and concentration levels are maintained.
Glycemic response in healthy adults

Plasma glucose response (mmol/L) from a high vs low GI food. The change in blood glucose concentration over time is expressed and calculated as the area under the curve (AUC) (Wolever et al, 1991).
Diet of a champion learner would include:

**Eggs**
- Eggs are not only a great source of protein, they also contain a nutrient called choline, which is needed for the normal functioning of all cells, and is essential for brain development and memory.

**Salmon**
- Oily fish such as salmon is an excellent source of omega 3, which are essential for brain growth and cognitive function.

**Oats**
- Oats are a fibre-rich energy food, packed with vitamins B and E, potassium and zinc, which all help to ensure the brain works at its best.
Diet of a champion learner

**Colourful fruits and veggies**

- Packed with antioxidants vitamins A, C and E essential for optimal brain function, fruit and vegetables should be a part of every meal.
- Kids need at least 1 serve of fruit and 3 serves of vegetables each day.

**Wholegrain breads and cereals**

- Wholegrains contain slow release carbohydrates which provide children with sustained energy.
Diet of champion learner

**Nuts and seeds**

- Nuts and seeds are high in fibre and packed full of vitamins and minerals. Vitamin E in nuts is a brain-boosting antioxidant.

**Dairy**

- Calcium is a vital part of any child's diet, since it strengthens bones and teeth.
- Dairy foods are also full of protein and B vitamins which are essential for the growth of brain tissue.
Diet of champion learner

*Iron-rich foods*

- Iron-rich foods include red meat, chicken, fish, legumes, wholegrain breads and cereals.

*Water*

- Don't forget to keep your children hydrated, to prevent fatigue and help them maintain concentration.
What are the implications for you?

- Form a small group of 3-5 people and discuss the implications for you & your school
- Highlight changes for your classroom & the school regarding Healthy Eating

Be prepared to share your group's initial thoughts in 5 minutes
ACHPER (SA)

ACHPER (SA) can offer this session to your School/Site.
Contact ACHPER (SA) for more information info@achpersa.com.au
Or visit our website www.achpersa.com.au
Or telephone 08 8363 5700