STEPS OVERVIEW INFORMATION

STEPS – is an Information model designed with an easy to use mnemonic that appeals to children.

If you can't put it on one piece of paper it will probably be to hard to teach easily, so each of our handouts are designed to get the point across in one page…

STEPS has a number of versions to suit the level or the curriculum area that it is being used for. These include:

STEPS Junior version

STEPS Senior version (Senior Primary K6-12 to High School)

STEPS Science version

STEPS Technology version

STEPS Art version

Each of the kits contain:

♦ STEPS: One page summary poster, a one page flesh out for each step of the process.
♦ Steps Simple Posters – half page main ideas
♦ STEPS Rubrics – Ways to scaffold the process and assess

ALSO

There are a range of online activities that can be used to teach some of the important skills in an isolated focused session. These cover:

♦ Main Ideas
♦ Skimming and Scanning
♦ Keywords

Using STEPS

Information Literacy models abound, but research indicates that the best way to master the required skills, is to have a consistent model across a school.

TIPS:

♦ Reinforce STEPS regularly / print and laminate / enlarge and have on display everywhere
♦ Break down the process and teach it systematically in carefully scaffolded steps (see the tips on scaffolding later in this document)
♦ Be aware that teaching in context is vital but some skills need to be taught in isolation, to make it easier for kids to master them. Some children pick up skills naturally (like sounding out words in a whole language sense) but others require a more systematic approach (as in phonics breakdown), so a mixture of both is important.
♦ As schools move towards integration to improve learning, it is important to remember the importance of repetition, revising, and revisiting … i.e. if they only have the opportunity to create questions 2-3 times a year in integrated research tasks will that be enough practice in the art of generating and answering questions?

Underlying skills to consider for isolated teaching first (i.e. "Information Muscle" time) are:

♦ Creating Questions
♦ Identifying Key Words
♦ Skimming and scanning

- ♦ Finding main ideas
- ♦ Interview Skills
- ♦ Synthesis
- ♦ Differentiating between Fact and Opinion
- ♦ Plagiarism/ acknowledging sources

It is important that the skills are taught using a variety of resources (i.e. book and ICT environment). For example, many kids who scan a book may be able to locate a keyword/main idea but not use the same skill on an internet page.

You will find that most kids will have the required ICT skills shared amongst them but training on some ICT skills may be relevant. In my experience the following may need a muscle (isolated skills focus) approach:

- ♦ Reading for Main IdeasBookmarking/favourites
- ♦ Efficient use of search engines (knowing when to try something different)
- ♦ Using find on an internet page (See finding information on the Internet resource)
- ♦
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About this Information Process Model

This model was developed from a New Zealand Information Literacy meeting in 2004, to meet the needs of seeing learning and information literacy as a journey.. hence STEPS. It has been trialled across a range of curriculum areas (i.e. there is a version for science/ technology/art etc) and age groups (version for junior classes) and has a range of supporting resources to aid in implementation.

Information Muscle Time

One of the dangers with integrated units is that some of the skills that need repeated practice are not repeated enough for mastery. While it is important to put STEPs into an authentic learning context, it is also important to realise that repetition of skills also leads to success. Striking the balance is important. I call these skill based sessions "information muscle time" building up the skills in the areas that I wish to focus on or that need more scaffolding.

If you are seeking to improve skill acquisition, you might put in very short and snappy sessions, both based on books and/or websites/encyclopaedias that don't have a heavy emphasis on assessment. Go for 5-8 mins of activity, repeated often. They can be done in groups or own, but a mixture of both is good. Treat it a bit like Theatre /Sports for Information Literacy. Above all make sure that any reading material you are using is below the chronological reading age of the pupils so that they do not have problems with decoding at the same time.

At first you should give them lots of prompting cues.. posters, handouts etc i.e. see the Questions Resource.

Example: "Someone give me a topic… dinosaurs.. OK on the count of 5 I want you to write down all the things we could compare on the topic of dinosaurs.. (Green Hat) e.g. Compare… dinosaur species, largest dinosaur with largest animal today, how dinosaurs protect themselves verses how humans protect themselves, "

OK on the count of 5 write as many thin questions that you can think up about dinosaurs.

You have 5 min to write as many Fat questions (Blooms synthesis, analysis levels) on dinosaurs:

You have 5 min to by using a thesaurus write down as many keywords as you can for this question:

"Why are there no dinosaurs today" i.e. dinosaur, disaster, died, extinction, wiped out, theory, introduction, facts,

The Question Game with your kids. To start, two participants decide on a topic to question. One person starts with an open-ended question, then the other person responds with a related open-ended question. This goes back and forth as long as they can continue without making a statement or repeating a previous question. For example, the topic might be an object in the room, such as a light bulb:

A: Why is it important to have light?

B: Where does light come from?

A: How does light help people?

B: Where is light used?

A: What would happen if there were no light?

Questions can fly more rapidly than most of us can write, so it is advisable to delegate the writing to student assistants, dividing the blackboard into sections and keeping four students busy. This tactic keeps the pace fast and exciting.

Ask which questions go together?

Which are easiest or hardest to answer?

write three comparison questions about the story they are reading

find the most interesting question left unanswered by the reading;

identify the question the author was trying to answer;

write a question that will demand at least ten minutes of thought to answer;

find a question which has no answer, or two thousand answers or an infinite number of answers;

ask a question that is the child of a bigger question that they can then ask the rest of the class to identify.

Try asking a question and going around the room, each person asking a question based on the one before.

Other Resources I have produced to assist in helping pupils to be information literate.

How can you tell a FAT question from a THIN question?

Fat questions ask of us, What are the connections? What are the patterns? Why is this topic important? ("So What?" in colloquial language) How is this relevant to our world or my world? At the end of the day they hopefully lead to a sense of wonder and fascination about life on our spinning globe.

The FAT question (or higher level question in terms of Blooms) goes back to how much thinking is required to answer it. A FAT question will not only involve finding some information, but looking for connections between the information, ranking or coming up with an opinion about the information found, using comparisons and looking for patterns. Just making a summary list of things is a thin answer but comparing them with another or applying them to a new situation means that original thinking is required and the question is a FAT one. FAT questions should also require thoughtful answers, often based on supporting questions that help find the answer to the FAT question, and usually require supporting evidence and thoughts about connections to back them up.

FAT questions are those that come from the higher end of Blooms (cccccccccccccccccc) but be aware that a pupil can have a FAT question but then proceed to answer it in a thin way.

Examples of FAT and thin Questions:

Leadership theme using Hitler and Atilla the Hun

VERY THIN: When did hiltler and Atilla the Hun lead their countries?

THIN: What are the leadership skills of Hitler and Atilla the Hun? (This just requires finding information in resources and listing.. no thinking about the topic on a deep level)

THIN: How did their childhood affect their leadership later in life? (again just looking for facts that connect to leadership)

FATTER: What were the top three affects that their childhood had on their leadership? (Involves not only finding the information but having to decide on importance to the topic)

FATTER AGAIN: Who, out of Attila the Hun and Hitler, if they were alive today, would I have rather followed as a leader? (This question involves looking at the leadership qualities from a followers point of view and applies it in a personal context)

FAT: Would any of these leaders, Hitler or Atilla the Hun, would a better leader for North Korea in 2005? (This questions involves examine many leadership qualities , applied to a country that would more likely be receptive to their leadership, i.e. does not have a strong democracy. To answer this they will have to also look at the social and political conditions of each of the countries and apply them in a modern context.)

OF course your leadership question could look for connections in an entirely different way such as: Which of the systems of leadership, as used by boy scout/(girl guides) or apes would be the best for a leadership model in our school?

OR What are the top 3 examples of leadership in both the human world and animal kingdom?

Flight: using a BAT and Stealth Bomber

By choosing the two flying "machines" of bat and bomber the topic immediately means that the pupil is looking for connections and examining interesting issues.

Thin: How do a bat and a stealth bomber fly? (This leads to a long list, often copy and paste and little thinking. No comparison is inherent in the question.)

FAT: What are the top 5 common connections between the way bees and bombers use to fly? (While this looks simpler on the surface, in fact the pupil has to read the same amount of text as the one above but now has to take notes, summarise and come up with the top 5 flying connections. It is just there is less writing, although should be a lot "fatter" in thinking.)

FATTER AGAIN: Which stealth flying "machine", the BAT or the Stealth Bomber, would I judge to be more effective at carrying out their missions? (This question to be answered properly, will require a range of supporting research and comparisons on purpose, prey, flying parts and equipment, defense and attack systems etc). The FAT question will require the development of good supporting questions that may be thinner than this one but will help answer it. (i.e. Which of my flying machines has better attack and defense systems? What top 3 reasons a bat and stealth bomber need to fly unnoticed? Which can adjust the way they fly the quickest? Which one completes their "missions" more often?, how does their speed relate to their mission? – much better than what is their top speed?

So some quickfire examples:

Thin is: "What is snow skiing and snow boarding?" FAT is: "Which sport, snow boarding or skiing, would it be better for me to turn pro in?" (this brings in a real world context)

Thin is: "What is a possum?" FATTER: "If you put a possum into Thailand would it survive and become a pest?"

Thin is: "What games did a child in Eqypt play" FAT is: "Are there any connections between the games the Egyptians children play and ours today?" (also depends on context set i.e. first world third world country) OR FAT: "What games played by Ancient Egyptian children could be popular played by children in New Zealand today- Why/ Why not?" OR FAT: "How could I take some Ancient Egyptian games, and with a few changes make them more popular with children in New Zealand today?"

Tips for Scaffolding Information Literacy learning

♦ Use picture books to introduce concepts such as main ideas, skimming and scanning,

♦ Use simple text resources

♦ Provide easy access to resources at first, eventually leading them to thinking about and locating them themselves. An example on internet page use, from easier to harder, would be .. photocopied web pages blown up (simple text)… Webquest of sites you have found…. Giving them the keywords combinations to use…... letting them decide keywords themselves and using them to search. You can also scaffold by: Whole class demonstration, working in groups at first through to pairs/individuals so they learn to stand on their own

♦ i.e. Pre-locate web sites at first, then give them a few less sites the next time , then give them none (less able pupils may still need support of course)

♦ Provide them with a videoed interview, taking notes, then get them to do their own

♦ Concentrate on improving one part of the STEPS process at a time and let them know the focus before starting. For some topics you may give the FAT question and get them to write supporting ones. For others you may give supporting questions and get them to write the FAT question. Depending on time, appreciate that answering FAT questions takes time, so you may restrict your expectations on the number of supporting questions or the level of response that you expect.

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