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<td>Author(s)</td>
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Paper No. 14
Tools to foster Online Learning Conversations

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Outline

• Web as a learning platform
• Online interaction
  – how to monitor inappropriate uses
  – how to facilitate chat conversations
• Visual tools
  – how to provide a focus for conversation
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Internet

- A new medium for learning
- A medium that respects multiple forms of intelligence
  - textual
  - visual
  - abstract
  - musical
  - social
  - kinesthetic

WWW

- "Leverages the small efforts of the many and the large efforts of the small"
  - John Seely Brown
Chat services

- IRC
- people connect and communicate
- can be abused - as with any communication tool
- teacher in school and parent at home play frontline role
  - teach their charges discerning use

Loo C.K. (1999)

Online Chat - How to monitor?

- Software provides *crude* line of defence
  - detects usage or usage patterns
  - alleviates need for a human to monitor 100s of chat channels 24 hours a day

Loo C.K. (1999)
What would a parent like to be alerted to?

- Sex
- I can pick you up
- so lonely
- curious about sex
- come alone
- expletives

What would a parent like to do?

- Configure the chat services
- Flag or filter the undesirable language use
- Child will not be able to see or send such messages
Some safeguards to make Internet safer

• Don’t throw proverbial “baby with the bathwater”

School Environment

• 10s or 100s of project groups communicate
• teacher can’t facilitate so many concurrent chat discussions
• what’s the solution?
• “sample the conversations”
  – can also pick up Singlish lah
  – spamming
  – not on-task?
Hello! Why is Chu Kang monopolizing the discussion? Let me enter the chat room to find out.

Fong Kei: washed too much "single"! Let me enter the chat room to advise her.
Services to support Collaboration

• Value-added services to chat communities
• Software agents that support Learning Conversations
  – facilitate online conversation
  – monitor individual contributions

Conversation Facilitation (CF) agents

• Crude measures
  – tallies of total messages produced by participants
  – pick up language use - spamming, Singlish, vulgar, off-task
  – tallies of names, words, concepts that are mentioned
• Sophisticated measures
  – identify focus of conversation
Conversation Facilitation (CF) agents

- Make chat easy to follow
  - pry out different conversational threads into private chat sessions
  - integrate chat with task window
Fostering learning by fostering conversation

- Co-production of an insight around a joint activity
- Now, how to support these joint activities?
Visual Tools
Mind Tools

- Originally developed for individuals, when thinking was considered an individual act
- Social constructivist view of learning => thinking as an social act

Loi C.K. (1990)
Visual Tools for Representation

• Expand the range of representations beyond linear speech & writing
• Create knowledge in situ
Visual Tools for Negotiating Meanings

- Students generate ideas individually and then share ideas with the group
- Deepen & express individual views of how information is connected
- Share ideas with each other, incorporate new information from other students’ maps, develop own understanding

Leok C.K. (1999)
Visual Tools for Staying Focused

- "Talk is cheap"
- give students concrete structures
  - for focusing & persevering in long work sessions
  - for extensive project work
  - for producing a final product

Loi C.K. (1999)
SCAFFOLDING THE EFFECTIVE USE OF MINDTOOLS

- tools may be provided to build mindtools,
- but students may need to be scaffolded to know how to meaningfully construct them.
- prompts and questions which provoke the students to know how to think and what to do next in the context of using the mindtool to solve a problem.

Loi C.K. (1999)

Some leading questions for compare-and-contrast

- How are they similar?
- How are they different?
- What similarities and differences seem significant?
- What categories or pattern do you see in the significant similarities and differences?
- What interpretation or conclusion is suggested by the significant similarities and differences?

Loi C.K. (1999)
Shared Mindtools

- Allows flexible shifts between individual, paired and group activities
- Allows meta-level discussion of their thinking and work
- Allows publishing on the web

Looi C.K. (1999)

Representations galore on WWW

- Visual and verbal representations augment each other
  - text tools to annotate not just web pages but streamed media
  - visual tools to animate or depict (write on the napkin)
- Different affordances

Looi C.K. (1999)
Making use of past wisdom

- Accumulate lots and lots of mindtools for common projects
- Question: how to make use of such information to help future students doing the same projects?

Project: Water Shortage Problem in Singapore

Let's try the fishbone mindtool ...

I am the SMT agent!

Of the 235 projects done on this topic so far, 87% uses fishbones, mindmaps and the list, 7% uses cause-and-effect diagrams and lists, 4% uses trees, 2% uses form-and-functional analyses.

Please show us what mindtools have been used for this project in the past.

how the *** is form-&-functional analyses useful for such a problem?
Project: Water Shortage Problem in Singapore

We have identified these causes: over-consumption, wastage, limited supply, physical resource. SMT agent, any suggestions?

Uioi CK. (1999)

Let's check with SMT agent how our perception of technology solutions to the water shortage problem differs from last year's students.

Previous project teams when they work on this same project have listed 5 contributing causes to the technology issue (shows such a typical fishbone). They have not considered the cause of "not economic viable" which you have.

Uioi C.K. (1999)
Mindtools represent the structure of information, so that efficient searches can be done over the knowledge accumulated from completed mindtools.

I don’t know why this project group suggests cause X as a cause of Y. Let me look at the text annotations. Oh-Oh! Nothing there. Chat agent, can you show me the log of the discussion which transpired during the creation of this mindtool?

So, what do all these buy you?

- Web as a learning platform
- Online interaction
  - monitor inappropriate uses
  - facilitate chat conversations
- Visual tools
  - provide a focus for conversation
  - archive the process and leverage on it
Conclusion

- Evocable possibilities of learning on the web
- Idea sparklers which will evoke additional ideas for yourself