Assessment for Knowledge Building

KBTN Workshop
5 May 2007
CITE, HKU
Task 1- Learning more KF functions and Experiencing kb

1) Write on Knowledge Forum (Kf5.cite.hku.hk) (KBTN-schools) KBTN-workshops

2) Work in pairs or threes - write questions on KF I need to understand – What are some questions I have about assessment? About knowledge building?

3) How to use advance features like ‘Reference’, ‘My Reader’ and ‘Copy’ functions?

In groups, mentees supported by mentors find one note or one thread of notes from their own database. Use ‘copy’ and ‘reference’ functions. Write a short note about these student notes.
Different Views about Assessment
Assessment for Learning?

Knowledge building as one of the highest forms of Assessment for learning?
Think about your Assessment

- To Test or To Educate?
- Assessment OF Learning or Assessment For Learning?

......Or Both.........
Summative & Formative

- **Summative**
  - Often carried out end of term/year
  - To measure attainment; to rank

- **Formative**
  - Carried out continually & regularly during learning
  - To find out what students know; to inform teaching
Products and Processes

- **Products** – Finished products, marks, grades, essays
- **Processes** – How students arrive at the answers (e.g., drafts, reflection)

- **Quantitative**
  - Aggregate of marks or points
  - Accumulation of bits of knowledge

- **Qualitative**
  - Simple to more complex levels of understanding
  - Open-ended Tasks for understanding
Single to Multiple Abilities

- **Single Dimensions**
  - Assessment (i.e., tests) award only those who can get correct answers

- **Multiple abilities**
  - Are there ways to assess students with different abilities...
Alignment of Learning, Assessment, and Collaboration

- Assessment for Learning and Assessment of Learning
- Assessing individual and collective aspects of learning
- Assessing collaborative process and knowledge products
Classroom Examples
How to assess online-discussion?

- Quantitative methods
- Qualitative methods
Use of the Analytic Toolkit & Applets Assessment Tools
### Participation Score using Analytic Toolkit
available at [http://analysis.ikit.org](http://analysis.ikit.org)

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Applets Assessment Tools

- Contribution
  by Paul Johnson
- Lexical Analysis
  by Marc Lalancette
- Semantic Overlap
  by Chris Teplovs
- Social Network
  by Paul Johnson
- Vocabulary Growth
  by Jud Burtis
- Writing
  by Ben Smith Lea
Social Network: Note Created

- School A (N:20)
  - 258 notes

- School B (N:26)
  - 415 notes

- School C (N:40)
  - 580 notes
Social Network: Build on Note

- **School A (N:20)**
  - 194 notes (58%)

- **School B (N:26)**
  - 325 notes (78%)

- **School C (N:40)**
  - 514 notes (89%)
Social Network: Note Reading

- **School A (N:20)**
  - Density: 57.89%

- **School B (N:26)**
  - Density: 64.61%

- **School C (N:40)**
  - Density: 88.65%

5 May 2007
Social Network: Writing Build-on Note

- **School A (N:20)**
  - **Density:** 29.47%

- **School B (N:26)**
  - **Density:** 21.53%

- **School C (N:40)**
  - **Density:** 29.75%
Social Network: Reference

- **School A (N:20)**
  - Density: 0%

- **School B (N:26)**
  - Density: 0.92%

- **School C (N:40)**
  - Density: 5.6%
Social Network: Writing

- **School A (N:44)**
  - Word Diversity: 106
  - Average note created: 13

  Dates: Jan 1, 2001 to May 2, 2007

The notes considered by the Writing tool include build-ons and annotations. **Writing activity** is measured in the number of words written in sentences. **Word diversity** is a measure of the richness of language used by a writer. It consists of tracking the number of different words used in the text.

- **School B (N:26)**
  - Word Diversity: 364
  - Average note created: 16

  Dates: Jan 1, 2001 to May 2, 2007

- **School C (N:40)**
  - Word Diversity: 610
  - Average note created: 23

  Dates: Jan 1, 2001 to May 2, 2007

Group Name: 3B Group 2

The notes considered by the Writing tool include build-ons and annotations. **Writing activity** is measured in the number of words written in sentences. **Word diversity** is a measure of the richness of language used by a writer. It consists of tracking the number of different words used in the text.

Averages for the selected date range

Notes created: 13
Word diversity: 106

Averages for the selected date range

Notes created: 16
Word diversity: 364

Averages for the selected date range

Notes created: 23
Word diversity: 610
Question to think: What do these information show about the students’ learning?

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<th>School</th>
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<td>514 (89%)</td>
<td>89</td>
<td>30</td>
<td>6</td>
<td>23</td>
<td>610</td>
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Hands on the Applet

Logon to your database:

1. http://kf5.cite.hku.hk
Learning Diary
What is Learning Journal?

- A piece of writing which record thoughts and insights about students’ own learning experience.

- Encourages students to:
  - review and consolidate learning,
  - evaluate performance,
  - plan future learning based on past learning experience.

- Empower students to take charge of their own learning, and to develop into independent life long learners.
Learning Diary view

- Personal space for them to keep records of their own ideas and thoughts.
- Which these thoughts are useful for themselves to come up with solutions and novel approaches to get around problems encountered in their course of learning.
Diary Example

Students can gain an insight of their own strengths and weaknesses as a learner.

Students will understand and appreciate the importance of self-evaluation in the role of improving oneself.

Students will become more capable in planning for overcoming learning difficulties.
Designing a Reflective Learning Journal

- **Structured**
  - effective for helping your students to realize their problems

- **Unstructured**
  - some generic prompting questions
  - provide students the greatest freedom to ponder upon things that had the greatest personal significance
Instruction Example

Stand for "Learning Diary"

And then can "build on" this note for writing other Learning Diaries. Here is the reference note,

(1) You MUST write your learning diaries in your OWN POINTVIEW.
(2) You are required to write AT LEAST ONE learning diary a week. However, you are encourage to write more.
(3) You can choose "Learning Diary" or "Reflection: What have been learned" to write your Learning Diary. You MUST USE ALL THE SCAFFOLD on the left in writing one learning diary as shown below.

(Learning Diary No. 1)
(Date: 15 Dec 2006)

(The most important problem is: Why xxxxxx? How xxxxxx?)
(This is important because: xxxxxx)
(The best group of notes is: In the view: [IC] ENERGY-PKC LEARNING PORTFOLIO, the best group of notes is [IC]. Instructions for writing Learning Diary
(The major idea of these notes: xxxxxxxx xx xxxx)
(The idea can be better if: xx xxxx xxxx)
(How and Why I choose these notes: According to the KB principal, these notes xxx xxxxxxxxx)
## More Dairy Examples

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Summary note
中六級中文科時事討論

總結報告
小組匯報

負責組別的工作：

☐ 紀錄同學的筆記次數
☐ 審閱同學的筆記
☐ 總結同學的表現，於課堂上作口頭報告
第一組: 討論題目

香港的優才計劃是好是壞
(YOTTPSS)2006-07_68_Chinese_News_Discussion_1 一般

執行...

香港的優才計劃是好是壞 維艙 作者：6610 TAI YAN YU [2006, 十一月 23]

我同意香港政府實行優才計劃 維艙 作者：6627 TSANG HING WAI [2006, 十一月 15]

同意政府實行優才計劃 維艙 作者：6824 PENG ZHEN DUO [2006, 十一月 17]

香港的優才計劃未夠吸引 維艙 作者：6820 LAM TSZ HIN [2006, 十一月 16]

不同意林同學的意見 維艙 作者：6527 TSANG HING WAI [2006, 十一月 17]

我不同意林同學不同意的理據 維艙 作者：6820 LAM TSZ HIN [2006, 十一月 18]

如何才能吸引更多的人才？ 維艙 作者：6832 WONG SIU FUNG [2006, 十一月 24]

我不同意您的看法 維艙 作者：6518 LAI AIK HIM [2006, 十一月 23]

我有問題想問一下有關閣下的觀點 維艙 作者：6834 PENG ZHEN DUO [2006, 十一月 23]

輸入專才大勢所趨，然而治標者能治本乎？ 維艙 作者：6819 LAM MING TUNG [2006, 十一月 17]

我認同香港輸入專才是治標不治本的想法 維艙 作者：6808 LEUNG CHO YEE [2006, 十一月 18]

輸入內地優才當務之急 維艙 作者：6801 AU MAN YEE [2006, 十一月 24]

我不同意輸入專才是治標不治本 維艙 作者：6505 CHIU HO YAN [2006, 十一月 22]

本人並不認可輸入專才是治標不治本 維艙 作者：6823 POON WAI LUN [2006, 十一月 23]

這樣提升香港競爭力是好處嗎？ 維艙 作者：6814 CHAN YIK NAM [2006, 十一月 24]

治標又治本？ 維艙 作者：6833 YIM MAN CHUN [2006, 十一月 24]

我同意輸入專才計劃是治標而不治本的政策 維艙 作者：6815 CHEUNG CHI HO [2006, 十一月 25]

我同意香港推行優才計畫 維艙 作者：6518 LI CHEUK LUN [2006, 十一月 19]

我不同意香港推行優才計畫 維艙 作者：6509 SIN KA MAN [2006, 十一月 21]

我同意香港推行優才計畫 維艙 作者：6511 WONG YUK VI [2006, 十一月 23]

我亦同意香港推行優才計畫 維艙 作者：6503 CHAN HANG YU [2006, 十一月 22]

政府該如何培養本地學生成爲專才？ 維艙 作者：6820 LAM TSZ HIN [2006, 十一月 22]

引導專才來教育來港學子是否—有效提升本地學生質素的方法呢？ 維艙 作者：6833 YIM MAN CHUN [2006, 十一月 24]
歸納同學的觀點
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<td>□ 無法挽留香港專才，反令人才流失</td>
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<td>□ 是一個直接容易的方法，去解決香港暫時的問題</td>
<td>□ 無提出長遠的方向</td>
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檢討同學的筆記
討論問題: 何謂提升討論層次？
提升討論層次：

張翠琴的提升討論層次：

每年皆有成千上萬的大學
畢業生投身社會上的各行各業，如果有了如此數目龐大的畢業生還缺少優才，那末香港的教育就是缺乏前瞻性，以及大學生在就學時訓練不足，那麼，是教育的不足還是香港人養尊處優所衍生的惰性呢？香港人面臨外來人才的挑戰時，實應在知識、見聞、說話技巧等方面自我增值，以裝備自己。一旦教育的改善和學生的自發性雙管齊下，那麼香港將來就可依靠本地人才，而放棄優才計劃。
我的觀點：香港急需要輸入專才的原因為人口老化問題之餘，更是香港出生率偏低的問題。我的理據：老化問題極為嚴重，現今本港勞動人口只有約10%，約36萬人有大學學位，....正正因為香港的人口老化及出生率低，令經濟發展放緩，所以香港如果要治本的時候，就是要提升香港的出生率及加強對教育的資助，......政府應好好推廣一下家庭對一個社會的重要，令他們對建立家庭及產子的意欲更高，以維持香港人口結構。
Group Review
How to conduct group review?

Instructions:
1. Write a summary note about topic ‘X’ with reference to at least 5 of your classmates’ kf note.
2. You need to use the ‘Reference’, ‘My Reader’ and ‘Copy’ functions

Prompting Questions
1. What have you learnt about topic ‘X’?
2. Why the referenced notes are important to your understanding of topic ‘X’?
第7組的總結

by W. Kei Yuet

Last modified: 2007, Apr 24 (22:29:42)
by W. Kei Yuet

綜論)
1 學校禮貌周同意的確
是對學校禮貌周的存在作出質疑的筆記。

綜論)
4 禮貌週學校應否舉辦禮貌周?我的意見同意應該舉辦
是對學校禮貌周的存在有重要性的筆記，是好的，支持禮貌周。

2 很假
10 十分同意同意回應虛僞...
是對學校禮貌周的存在如同虛僞的藤蔓。

綜論)
14 虛僞以外的角度 *)
15 習慣不應!!我覺得呢...
是一些對禮貌周有建議的筆記。

結論)
校禮貌周有其好處也有壞處，是好是壞，是根據每個人的行爲而造成的。
果用一顆得過且過、虛榮的心態去參與活動，自然會變成一副虛僞的場面；相反，假若真心積極參與活動，就會覺得這個活動是正面，推動同學更有禮貌的力量。

note references
Use of Rubric Self assessing kf notes

Self assessing kf notes

LSS_rating_ws_questions.doc
Electronic Portfolio 10 mins

- Select the **BEST** cluster/group of notes from any of the Knowledge Forum views

- Write a summary for the selected note cluster
  - explain the reasons for choosing that particular cluster of notes or the strengths of those notes
  - need to organise the content of the portfolio note so as to help reader to understand your work better. For examples, give a theme of the selected note and state which principle(s) can be recognised in the note.

- **Example:**  [http://builder.i kit.org/view?DB=RC3CGEO%5F2006&ViewID=39784](http://builder.ikit.org/view?DB=RC3CGEO%5F2006&ViewID=39784)
### KB Principles

#### Table 1. Teacher Guidelines on Knowledge Building Principles and Portfolios

You need to select four best clusters of notes together with a summary note that explains why you have selected the notes. Use the principles and criteria to help you with note selection.

<table>
<thead>
<tr>
<th>Principle One: Working at the Cutting Edge</th>
</tr>
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<tbody>
<tr>
<td>• Identify knowledge gaps, inconsistencies and ask productive questions</td>
</tr>
<tr>
<td>• Pose problems that extend the edge of understanding of the community</td>
</tr>
<tr>
<td>• Pose problems with potential for continual discussion and inquiry (i.e., interest many people)</td>
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<table>
<thead>
<tr>
<th>Principle Two: Progressive problem solving</th>
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<tbody>
<tr>
<td>• Show continual efforts to grapple with problems posed by classmates</td>
</tr>
<tr>
<td>• Pose notes aimed at addressing the original problem and questions arising from them</td>
</tr>
<tr>
<td>• Show sustained inquiry: Identify the problem, solve the problem, but keep asking new questions</td>
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<tr>
<td>• Reinvest efforts to keep solving new problems to improve ideas</td>
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<table>
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<tr>
<th>Principle Three: Collaborative Effort</th>
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<tbody>
<tr>
<td>• Use various KF functions such as references and rise-above to make knowledge accessible</td>
</tr>
<tr>
<td>• Summarize different ideas and viewpoints and put them together as a better theory</td>
</tr>
<tr>
<td>• Help classmates to extend and improve their understanding</td>
</tr>
<tr>
<td>• Encourage classmates to write notes that follow the other principles</td>
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</table>

<table>
<thead>
<tr>
<th>Principle Four: Monitoring Own Understanding</th>
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<tbody>
<tr>
<td>• Explain what you did not know and what you have learned</td>
</tr>
<tr>
<td>• Recognize discrepancies and misconceptions and new insights; trace own paths of understanding</td>
</tr>
<tr>
<td>• Show your new ways of looking at things (questions, ideas, issues) after examining other KF notes</td>
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<table>
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<tr>
<th>Principle Five: Constructive Uses of Different Sources of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Use information from other sources (Internet, newspaper...etc) to support or explain your ideas</td>
</tr>
<tr>
<td>• Bring together classroom learning, information from textbook, classmates’ KF notes</td>
</tr>
<tr>
<td>• Provide contrasting or conflicting information to what is printed in the textbook</td>
</tr>
</tbody>
</table>
Because of overfishing, fish stock become flucate, they badly affected the fishermen and food supply in some developing countries. Our student suggest that we can try to use DNA to the fish so as to change their DNA to let them reproduce faster to solve the problem. This cluster is discussing about the advantages and disadvantages of using DNA to fish in order to discuss the possibly of using DNA to solve the problem of overfishing. Some notes in this cluster are very good at answering questions and raising questions, however, some notes are only some rubbish ha-ha notes. Nevertheless, principle 2 (Improvable Ideas / Progressive problem solving) best respresent this cluster.

**Progressive Problem Solving**

This cluster consists of many notes, they always pose notes that providing better answers and further supplement explanation of the information. They discuss about all the advantages and disadvantages of using DNA to fish whoever can solve the problem. They give further and further supplement and room for readers to think about. For example, **Changing DNA isn’t a solution.** This student has raise the disadvantages of changing DNA at first, after reading other notes, he even rise another notes for better improvement of the disadvantages of changing DNA. **About the disadvantages of changing DNA of the fish.** The students in this cluster make good use of raising questions to improve their theory. Raising questions continually can help improving ideas and give further supplement of explaining the idea.

Second, this cluster can identify the problem and give proper solution and keep asking questions. The students base on the idea of “changing DNA to fish to increase the problem of overfishing” to discuss about the advantages and disadvantages of changing DNA and the personal view of this idea. They are not just agree or disagree the idea, but with further explanation to support this idea or even raising more questions to improve this ideas. They even debate about GOD. Although this is a bit far from the discussion, but they can back to the square 1 at last.

Although this is a good cluster, there still some good and bad questions and answer in this cluster.

**Example of good answer:** DNA---------Good/Bad. This note has 2 features, he makes a possible situation of changing fish DNA, he even show his personal view of changing DNA. However, he can make a further explanation for his prediction would be rather better. **Level of Explanation (Answers) 5 (give possible prediction and show personal view).**

**Example of bad answer:** E-Portfolio I don’t agree. This note is very bad that he has only shown his personal view with no explanation and further elaboration and evidence to persuade people. Example of bad question: **Level of Explanation (Answers) 1 (give opinion without evidence).**

**Example of good question** Changing DNA isn’t a solution. This note ask for the consequence of changing fish DNA. His question is asked step by step, each question is related to the others. **Level of Inquiry (Question) 4 (explanation based question).**

**Example of bad question:** i don’t think so. This note is quite odd because this likely a question, but it doesn’t really. **Level of Inquiry (Question) 1.**
1. Evaluation of Depth of Inquiry

We have chosen this cluster, because their notes have the advantages of:
1. High level of explanation
2. High level of questions
3. High level of discussion

This cluster is very good at elaborate people's ideas and explain their views (will be discussed below): This cluster is very good at using questions to support or generate discussion. **Reasons** For example, **Question** Eric Y. First, he stated the problem and asked for further reasons and solution (level 3-4). In **I don't understand**, Eric Y stated the fact and asked for reasons (level 3-4). In **I am gonna to tell you**, he was asking some relevant questions in order to investigate why LDC's economic situation kept falling even with money borrowed from the MDC's. **Level of Inquiry (Question)** level 3-4.
2. Evaluation of Collective Advances using knowledge building principles

ii. Knowledge Building Principle best represents the discussion:
In general Principle Three: 'Collaborate Effort' best represent the discussion. It is because in this cluster, classmates tended to:
1. Use lots of KF functions, such as “references” and "rise above" to make their note more accessible.
2. Summarize different ideas and viewpoints and put them together as a better theory
3. Help classmates to extend and improve their understandings

This cluster helped classmates to extend and improve their understandings. Despite they haven't improve any students' wrong ideas, they can base on the idea of a student to collaborate and extend their idea into a more contented theory. They elaborate the simple theory into a beeter theory. Examples are: \[12 \text{ I am going to tell you another main reason...} \] Besides answering Ezekiel F's question, he even told him other main reasons to expand and continued the discssion focus. This can help the discussion become more contented and debatable. The content in the discussion will be more diversity and more interactive.
3. Evaluation of Collective Advances using knowledge building principles and depth of inquiry rubrics

iv. Identify the most important constructive response/answers. The most constructive answers within this cluster were **Summary**. It is because Chi Pang.L summarised the materials that discussed in the past and make a good conclusion. His note summarized the previous notes and stated 7 reasons and relevant solutions to explain why the difference between the rich people and poor is getting greater and greater. He had answered the question originally raise by Eric.Y. He then synthesized the problem of Poverty to different points and make a rise-above summary. Although he didn't show his personal view, he was neutral in this summary. He even make a conclusion in the previous prediction and recognize them in a higher level. He stated some facts and combining the prediction in his previous notes. His note can raise another questions and continue the process of the discussion.

- **Constructive Use of Resources**
- **Level of Explanation (Answers) Level 5**
4. Way Forward:

Suggestion for improvement:
Although this group did well, there are still some loopholes in the cluster that we hope them to improve.
1) In their answers, they could not explain the theory with explanation and there is lack of their personal view, this may make the discussion become too informational or factual.
2) This cluster consist of 12 notes, being a good cluster, it isn't enough, I suggest someone can raise some good questions and continue the discussion. This is a interest topic, it can let us to concern more about the economic problem of the world.

Figure 2 A group portfolio note illustrating a knowledge building principle and collective knowledge advances (cont’d)
Group discussion

How would you deal with your students’ online discussion?