Purpose of Presentation

- **Purpose:** Building on our earlier attempt to promote collaborative practices among pre-service teachers in Web 2.0, the purpose of this presentation is to report our 2nd iteration of the intervention and the outcomes we have observed.

- **Assumption:** The Net Generation pre-service teachers’ digital practices cannot be assumed to be self-directed with a high degree of autonomy based on simplistic generational “digital natives” claims. Recent empirical findings suggest complex conditions influencing literacy practices such as the design of learning activities.
Background

Understanding Net Generation Pre-Service Teachers Digital Practices

• Claims that the Net Generation or “Digital Natives” (Prensky, 2001) developed cognitively differently as a result of their birth in the digital age

• With respect to learning, their preferences include:
  • Searching and processing information speedily (Oblinger & Oblinger, 2005)
  • Muti-tasking or task switching (Judd & Kennedy, 2011)
  • Discovering with high degree of autonomy (Barnes, Marateo & Ferris, 2007)
  • Social, collaboration learning methods (Oblinger & Oblinger, 2005)
In recent years, the Net Generation such as the pre-service teachers enter university. Claims about Net Generation are empirically tested.

Some evidence include:
- Students are highly tech-savvy but do not frequently use technology in their learning (Oliver & Goerke, 2007)
- Frequent use of basic tools e.g. mobile but the great inclination towards participatory Web2.0 technologies may be overly exaggerated (Jones, et al., 2010)

Non homogeneous characteristics within the Net Generation (Jones, et al., 2010)
- More dependent on lecturer’s direction rather than high autonomy in learning (Margarya, et al., 2011)
- Little higher-order thinking exhibited when using participatory Web2.0 (Lim, So & Tan, 2010)

Overall: Taking the claims and the counter-claims of the Net Generation pre-service teachers digital practices as a whole, we contend that pedagogical design of learning activities is an important aspect of meaningful learning in Web 2.0 environment.
1st Iteration

Reported in:
Lim, Wei-Ying, So, Hyo-Jeong and Tan, Seng-Chee (2010)
‘eLearning 2.0 and new literacies: are social practices lagging behind?’ Interactive Learning Environments, 18: 3, 203 — 218

The Technological Landscape: Comparing Web 1.0 and Web 2.0

- Compare along 3 dimensions namely, Technological, Social and Epistemological (Lim, So & Tan, 2010)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Web 1.0</th>
<th>Web 2.0</th>
</tr>
</thead>
</table>
| Technological | • Closed structure  
               | • Content delivery  
               | • Difficult to customize                      |
| Social      | • Bounded participation  
               | • Self-paced instruction                      |
| Epistemological | • Of possession  | • Of practice                                |
Foundational Pre-Service ICT course

- 12 week term (July semester 2008)
- Course objectives:
  - Appreciate the potential of ICT for use in teaching and learning
  - Build on competencies in the use of ICT tools
  - Prepare student teachers for implementing IT-based learning activities in classrooms
- Core & Elective structure – 5 weeks core, 5 weeks electives (1 week elearning & 1 week group presentation)

Context of Study

- Duration: 3 weeks of lessons on ICT for Collaborative Learning
- Tools used: pbwiki
- Participants: 1 class of 24 student teachers
Context of Study

- **Structure of Activities:**
  - Week 1: Conceptual underpinning of collaborative learning & tools exploration including pbwiki & Wikipedia
  - Week 2: Collaborative group work to compare & contrast 2 case studies. Groups are to formulate & synthesize findings collaboratively online on a pbwiki site for a week
  - Week 3: Whole-class discussion about collaborative learning experiences on pbwiki

Findings

- Predominance of grammatical edits
  - Content knowledge remains unchanged
- Task-oriented ways of collaborative writing
  - Adding-on of ideas to make a whole. Little meaning making
- Few higher order types of discourses
  - Absence of negotiation
Findings

1. Predominance of grammatical edits

2. Add-on of ideas

2nd Iteration
Foundational Pre-Service ICT course

- 12 week term (Jan semester 2010)
- Course objectives:
  - Appreciate the potential of ICT for use in teaching and learning
  - Build on competencies in the use of ICT tools
  - Prepare student teachers for implementing IT-based learning activities in classrooms
- Core & Elective structure – 4 weeks core, 6 weeks electives (1 week elearning & 1 week group presentation)

Context of Study

- Goal: To allow student agencies for learning to emerge in online spaces
- Duration: 6 weeks of lessons
- Tools used: Google Site and Google Docs
- Participants: 5 classes of about 120 student teachers
Learning Design

Key Focus:
- Developing subject expertise through idea improvement
- Developing a knowledge building practice

Key Strategies
- Community size – 5 classes (about 120 students) for diversity in brainstorming and idea improvement (Scardamalia, 2002)
- Distributed participation structure – facilitates intra-group, inter-group, within community & “outside” world interaction (Greeno, 2006)
- Web 2.0 learner-centered platform to promote learners interacting with peers, interacting with online resources and creation of artifacts
- Hands-on approach to learning of ICT tools
Structure of Activities

- Learn 3 ICT tools, e.g. concept mapping, multimedia learning & blogging
- In-class & ongoing structure:
  - **In-class:** Inquiry-based hands on approach to learn about ICT tools
  - **In-between classes (ongoing):**
    - Intra & inter-group interactions on group space in Google Site
    - Intra-community interactions on Google doc (brainstorm & improve ideas on affordances and limitations of specific ICT tools)

Example of Scheme of Work Given to Students

<table>
<thead>
<tr>
<th>Lesson Number</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Whole Class Synthesis of ICTs for Meaningful Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In-Class Activity</strong></td>
<td>Group/Pair Hands on experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Google Sites</td>
<td>Accounts of hands-on experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Assignment</td>
<td>* 6 through group assignment * Lesson idea presentation * Lesson summary doc * Hand progress report 1 (Describe the web 2 individual role for the task 3) Progress check</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Lesson idea application * Lesson summary doc * Weekly progress report</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
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</tr>
</tbody>
</table>

- **Students:** Hands-on ICT tools and applications
- **Group:** Group based lesson ideas & design
- **Class:** Group based lesson ideas & design
- **Whole Class:** Synthesis of ICT tools for meaningful learning
Example of Google Site

ICT for Meaningful Learning

Main Page

Technology-enabled Lessons (TEls)
The focus for the rest of the ICT course is on the study of TELs. In TELs, we examine two to three tools, explore their affordances for teaching and learning and design pedagogically sound lesson ideas surrounding the use of the tools.

Learn about:
- Concept Mapping
- Multimedia Learning
- Weblogs

Google Apps Quick Tour

Examples of Tutorial & Group Page

Examples of Tutorial & Group Page

Navigation
- Class Announcements
- Group Assignments
- Contact Us

Group Spaces
- OED527 TG5
- OED107 TG9
- AED107 TG1
- AED107 TG12
- AED107 TG18

External Links
- E-Learning ICT Practices for Teachers
- VLE/Teacher Portal (Blackboard)
- FutureLab
- Online Apostrophy

Navigation
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Explore PecanPost - eLearning Postcard

Explore PecanPost - eLearning Postcard

Winner!
Findings

- 3 distinctive participatory patterns
  - Ways of “talking” – Positioning used by students
  - Mediational role of ICT as resource to support talk
  - Overall participatory practices observed
Case 1: 5 Ladies and a Map

- Ways of “talking” (Positioning)
  - Consistent alignment of members in group as one identity addressing the “outside” world throughout group space
  - Action-oriented ways of “talking” e.g. “we covered”, “we met”
  - Fluid transition of individual and collective actions
  - Positioned themselves as users of knowledge e.g. “we felt that mindmaps are more appropriate for Geography”

- Mediational role of ICT resources
  - Collection point for cognitive artifacts
  - Planner for achievements & to-do items
  - Assert sense of who they are

---

Case 1: Ways of “talking” (Positioning)

**Week 8**

- We covered concept mapping. Discovered differences between mind-mapping and concept mapping.
- We met up an hour earlier before class to share what we have learnt from the readings, and we felt that apart from blogs, Concept Maps and Mind-maps were both good (objective matt). During class, we learnt more about the difference between Concept Maps and Mind-maps. During the discussions, we felt that Mind-maps are more appropriate for Geography.
- We came across many interesting concept-mapping websites that we felt will be useful for our project:
  - [www.mindomo.com](http://www.mindomo.com)
  - [www.mindjet.com](http://www.mindjet.com)
  - [www.mindmeister.com](http://www.mindmeister.com)

- We then tied in our new found ideas to the topic that Angela chose for our topic.

**Objectives for Week 9:**

1. Meet up to start doing the Power Point.
2. Brainstorm about worksheets, lecture notes to give to the ‘students’ for the project.
3. Come up with a finalized, concrete idea of what we are going to do for the lesson.
Positioning & Mediational Role of ICT

To do list for recess week:

1) Split up the readings among ourselves
   - MUST discuss findings/ideas by next week!
2) Brainstorm ideas for our project

<table>
<thead>
<tr>
<th>Name</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>JASVIN</td>
<td>Do readings on Blogs</td>
</tr>
<tr>
<td>JERINE</td>
<td>Do readings on Learning Theories</td>
</tr>
<tr>
<td>BELLINDA</td>
<td>Do readings on Concept Maps</td>
</tr>
<tr>
<td>DJRUSSI</td>
<td>Do readings on Design Principles</td>
</tr>
<tr>
<td>ANGELA</td>
<td>Brainstorm Geography topics which are suitable for in-class lessons</td>
</tr>
</tbody>
</table>

We are to mind-map/make notes of all the readings and explain to each other what the readings are about in the following week.

Mediational Role of ICT

Volcanoes
- LOCATION AND TECTONIC SETTINGS

Concept Map

Teaching Slides
Case 1: Overall Participatory Practices Observed

- Action & task-oriented learners
- Tight alignment of individual member and group identity and goals
- Active constructors of knowledge

Case 2: Three Amigos

- Ways of “talking” (Positioning)
  - Asserted group identity via the adoption of Speedy Gonzales as mascot
  - Consistent alignment of group as one identity addressing the “outside” world
  - Used divide and conquer cooperative strategy
  - Positioned themselves as task switchers e.g. “when you get really bored, expand your knowledge with this [who wants to be a millionaire]”

- Mediational role of ICT
  - Planner for achievements & to-do items
  - Assert sense of who they are
Ways of “talking” (Positioning)

We are three charming young lads with a vision to create revolutionary teaching practices, applicable to this technologically savvy era, with the usage of Information and Communication Technologies (ICT).

Speedy Gonzales is an amigo or a friend to his community, who uses his lightning-quick ability tocodec his meals and occasionally add his community, plagued with hunger for more. Use him, we use the technological know-how that we possess to overcome the difficulties that we are facing in our present teaching methods and with an aim that we can provide the best education for our community especially and the society in this whole.

Positioning & Mediational Role of ICT

<table>
<thead>
<tr>
<th>Date</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>22nd February 2010</td>
<td>Identify the advantages and disadvantages of using podcasts as a teaching tool. Various podcasting platforms were experimented with and our group felt really comfortable using Multiply over other platforms available online.</td>
</tr>
<tr>
<td>8th March 2010</td>
<td>Identify the advantages and disadvantages of using weblogs as a teaching tool. Various weblogging platforms were experimented with and our group felt really comfortable using Multiply over other platforms available online.</td>
</tr>
<tr>
<td>11th March 2010</td>
<td>The team met for a discussion to decide on key elements of the whole project such as the subject to be taught during the planned lesson, the topic and also the targeted audience. All of these is in accordance to the Lesson Idea Summary provided in this Google Site. We also came up with a specific instructional objective (ISO) for the whole lesson.</td>
</tr>
<tr>
<td>Individual tasks:</td>
<td></td>
</tr>
<tr>
<td>Nihar - Set up a proper Multiply group page for the students.</td>
<td></td>
</tr>
<tr>
<td>Zulfikar</td>
<td>Teach the theoretical aspects of the whole lesson, such as the pedagogical approaches, its definition and usage etc.</td>
</tr>
</tbody>
</table>
Ways of “talking” (Positioning)

Case 2: Overall Participatory Practices Observed

- Action & task-oriented learners
- Sense of group intersubjectivity less strong than case 1 (more divide and conquer)
- Stronger sense of Net Generation characteristics (remix of Speedy Gonzales videos & online games in group space)
Case 3: Group WON? [What’s Our Name?]

- Ways of “talking” (Positioning)
  - **Differential membership**: Leader/membership relationship
  - **Members addressing one other**, “outside” world is a third party “Hi guys, I edited our group page…”
  - **Instructional nature of talk** “Please click here to access the above file…”

- Mediational role of ICT
  - Collection of thoughts and ideas

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Ways of “talking” (Positioning)

- **The Kittens - Timeline by Premali - 8 Mar 2010**
  - Hi Kittens, please click here to access the above file done by Premali.

- **Tabulation of roles and Jobs by Week - Sharon 5 Mar 2010**
  - Hi Kittens, please click here to access the above file done by Sharon.

- **Group Site Page - Updates**
  - Hi guys, I edited our group page as you can see. Firstly, I took the liberty of renaming our group to be WON - What’s Our Name. I actually thought of calling ourselves “No Signboard” after the seafood restaurant, but decided against it. Please feel free to change it.
  - Secondly, I added our pictures and a Winner pic for fun. At least our page will not look so dull like everyone’s else. Hooray.
Mediational Role of ICT

Using Weblogs for Learning - check out Posterous here
This builds on the suggestion in class from Ms Lim about using Weblogs as TBL. - Hoses 11: Mar 2010

Explore Posterous
A random selection of things people have posted recently...

Hey Kittens,

Check this out.


Andrea J - Mar 10, 2010 8:12 PM - Remove

And this


Hoses: How to make these hyperlinks?

Case 3: Overall Participatory Practices Observed

♦ Idea generators
♦ Least sense of group intersubjectivity
Discussion & Conclusion

- Social Participatory Practices
  - Achieved learning via multiple pathways of participation
    - Showcase of work as one group identity to “outside” world – case 1 & 2
    - Online as extension of face-to-face interaction for group – case 3
  - Depth of meaning making varies. Seems partly dependent on
    - Pre-service teachers’ epistemology – case 1 are users of knowledge
    - Group’s collaborative learning method

Discussion & Conclusion

- Display of Net Generation Characteristics
  - Some degree of task-switching
  - Varying degree of collaborative learning methods (case 3 the least)
  - Self-directed but within scope of teacher’s macro instruction. Little extension of learning
Discussion & Conclusion

- Multiple Mediational Roles of Technology
  - To communicate with one another and with “outside” world
  - To create cognitive artifacts
  - To merge traditional boundaries e.g. comic and professional world
  - To assert who they are (if and when they choose to)

Recommendations for Future Work

- Adoption of KB principles and scaffolding to create and deepen meaning making
- To adapt a more communicative platform e.g. chat platform or KF for ease of interaction
Thank You

- Weiying Lim: weiyiing.lim@nie.edu.sg
- Seng Chee Tan: sengchee.tan@nie.edu.sg