Voice vs. Text Chats: Their Efficacy for Learning Probing Questions by Non-Native English-Speaking Medical Professionals in Online Courses

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CMC/SCMC: Text

- Warschauer (2000): students are more eager to participate in text chats; language production rates increase considerably;
- Chun (2003), Neuage (2004): students are less anxious to communicate their ideas;
CMC/SCMC: Voice

- Hampel & Hauck (2004): nurturing environments for synchronous communication and interaction; improve students’ speaking abilities in their L2;
- Volle (2005): students’ overall oral proficiency scores improve after their extensive exposure to voice chats;
- Poza (2005): influence of voice CMCs on students’ anxiety levels; considerably lower with voice chats than with F2F formats;
- Kotter (2001): students with higher-level language proficiencies are benefitting greatly from online voice chats (at least intermediate L2 language proficiency recommended for L2 online voice CMCs);
- Beauvois (1997): possible transfer of skills between written and spoken language; language skills gained through text chats benefit students’ spoken abilities.
Questions

Through an online course Communication in Nursing for NNS medical professionals, this project aims at examining the following questions:

• Which CMC interactional mode – voice or text – provides for better learning of probing questions by NNS medical professionals online through noticing of their use in situations typical for everyday medical communication?

• Which CMC interactional mode – voice or text – is perceived as more effective for learning how to use probing questions in medical communication by the online course participants?

• Is there evidence that practicing probing questions in text-based chats online may transfer the skill to speech and vice versa?
# Alternative Course Formats

<table>
<thead>
<tr>
<th>Proportion of Content Delivered Online</th>
<th>Type of Course</th>
<th>Typical Description</th>
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<tbody>
<tr>
<td>0%</td>
<td>Traditional</td>
<td>Course with no online technology used — content is delivered in writing or orally.</td>
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<tr>
<td>1 to 29%</td>
<td>Web Facilitated</td>
<td>Course that uses web-based technology to facilitate what is essentially a face-to-face course. May use a course management system (CMS) or web pages to post the syllabus and assignments.</td>
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<tr>
<td>30 to 79%</td>
<td>Blended/Hybrid</td>
<td>Course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has a reduced number of face-to-face meetings.</td>
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<tr>
<td>80+%</td>
<td>Online</td>
<td>A course where most or all of the content is delivered online. Typically have no face-to-face meetings.</td>
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</tbody>
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Towards Becoming an Online Nation

Total and Online Enrollment in Degree-granting Postsecondary Institutions – Fall 2002 through Fall 2009

## Towards Becoming an Online Nation

### Total and Online Enrollment in Degree-granting Postsecondary Institutions – Fall 2002 through Fall 2009

<table>
<thead>
<tr>
<th></th>
<th>Total Enrollment</th>
<th>Annual Growth Rate Total Enrollment</th>
<th>Students Taking at Least One Online Course</th>
<th>Annual Growth Rate Online Enrollment</th>
<th>Online Enrollment as a Percent of Total Enrollment</th>
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</thead>
<tbody>
<tr>
<td>Fall 2002</td>
<td>16,611,710</td>
<td>NA</td>
<td>1,602,970</td>
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<td>Fall 2003</td>
<td>16,911,481</td>
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<td>1,971,397</td>
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<td>Fall 2004</td>
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<td>2,329,783</td>
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<td>Fall 2007</td>
<td>18,248,133</td>
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<td>29.3%</td>
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Online Education: Future

Online Education is Critical to the Long-term Strategy of my Institution - Fall 2002 to Fall 2010

Habermas’ Theory of Communication Action ( Adopted from Barry, et al., 2001)

**System**

- **Habermas**

**Lifeworld**

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**The Voice of Medicine**

- **Incompatible**
  - Leads to struggle in consultation, disruption & fragmentation

**Doctors**
- Technology focus
- Maintain control
- Power imbalance

**Patients**
- Suppressed
- Fragmented

**Medical Care**
- Inhumane & Ineffective

---

**The Voice of the Lifeworld**

- **Mishler**

**Doctors**
- Translate technical
- Listen
- Open-ended Q’s
- Negotiate
- Share power

**Patients**
- Coherent accounts
- Meaningful

**Medical Care**
- Humane & Effective

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**The Voice of Medicine**

**The Voice of the Lifeworld**

**Features:** Turn-taking; Connecting; Mutual influencing; Co-creating outcomes

**Vehicle:** Patient-centered probing techniques

- statements generated by the needs for further clarifications (e.g., “It is still not clear to me whether you want to...” (p. 123));
- direct requests for further information or clarifications (e.g., “Tell me what you mean when you say...” (p. 123));
- **direct probing questions** (e.g., “What do you mean..?” “What is going on?” “What might that be?” (p. 123));
- single words or phrases that serve as requests or questions (e.g., Client: “I really hate her.” Helper: “Hate?” (p.124)).
Noticing

(Schmidt, 1990; Robinson, 1995; Gass, 1997; Swain, 2000; Smith & Gorsuch, 2004; Poza, 2005; Shekary & Tahririan, 2006)

- Noticing, or conscious attention to the form of input, is necessary to subsequent L2 development (Schmidt, 1990), “noticing requires of the learner a conscious apprehension and awareness of input” (Schmidt, 2001, p. 26);
- Noticing, “what is both detected and then further activated following the allocation of attentional resources” (Robinson, 1995, p. 297);
- Noticing and intake link (Izumi, 2002; Leow, 2000, 2001; Mackey, Gass & McDonough, 2000);
- Written chat: attention to form (Smith, 2004); negotiation of meaning & self-correction (Kitade, 2000); negotiation of meaning & form-focused interaction (Pellettieri, 2000); understanding past-tense morphological markings (Salaberry, 2000)
- Noticing does not guarantee acquisition (learning?): “the necessary and sufficient condition for the conversion of input to intake for learning” (Schmidt, 1994); process forms in short-term memory;
- Izumi (2002) suggested: different modalities (written vs. oral) might lead to different levels of noticing \[\Rightarrow\text{needs research}\]
Self-correction/Self-repair as Evidence of Noticing

(Swain, 1985 [Output Hypothesis]; Schmidt, 1990; Foster & Ohta, 2005; Kormos, 1999; Lee, 2002; Lai & Zhao, 2006; Smith & Gorsuch, 2004; Jepson, 2005; Shekary & Tahririan, 2006; Smith, 2009)

- **Self-correction/self-repair**, modified output, occurs when speakers detect that their output is faulty or inappropriate in some way (Swain, 1985, Smith, 2009);
- Observable behavior; “learner has engaged in some monitoring strategy or has **noticed** a production error” (Kormos, 1999);
- Lai & Zhao (2006) **learner self-correction as evidence of noticing**: online chat was superior to F2F interaction for promoting noticing of mistakes (based on analyses of text-based transcripts)
Skill Transfer (Beauvois, 1997)

- Text-based chat: Practice of rapid interaction during chats could be transferred to speaking skills.
- Beauvois (1997): 2 groups (F2F and SCMC). SCMC group: oral scores were higher than F2F
- More research necessary
Questions

Q #1: Which CMC interactional mode – voice or text – provides for better learning of probing questions by NNS medical professionals online through noticing of their use in situations typical for everyday medical communication:

- If the participants were instructed in voice, have they produced more probing questions in the voice-based post-treatment condition? Is the difference statistically significant?
- If the participants were instructed in text, have they produced more probing questions in the text-based post-treatment condition? Is the difference statistically significant?

Q #2: Which CMC interactional mode – voice or text – is perceived as more effective for learning how to use probing questions in medical communication by the online course participants?

Q #3: Is there evidence that practicing probing questions in text-based chats online may transfer the skill of their use to speech and vice versa?

- Has Group A (which was instructed in voice) produced more probing questions in written chat (text) as well, compared to the pre-treatment data?
- Has Group B (which was instructed in text) produced more probing questions in video chats (voice) as well, compared to the pre-treatment data?
Participants/Set-up

- 40 NNS seniors of a nursing college at a major university in the Philippines;
- Fall 2010-Spring 2011 semesters;
- The Center for English as a Second Language (CESL), the University of Arizona;
- An online CESL Online: Communication in Nursing course;
- Desire-to-Learn (D2L) and Elluminate;
Tools to Get There

- Desire-to-Learn (D2L)
- Elluminate
  https://sas.elluminate.com/m.jnlp?sid=&miuid=1B9B35F8DE038C1B7E639BE9A912BC6
- Jing (techsmith.com/free install)
- Camtasia Studio 7
Q #1: Which CMC interactional mode – voice or text – provides for better learning of probing questions by NNS medical professionals online through noticing of their use in situations typical for everyday medical communication;

Q #3: Is there evidence that practicing probing questions in text-based chats online may transfer the skill of their use to speech and vice versa?

<table>
<thead>
<tr>
<th>GROUP A (VOICE)</th>
<th>GROUP B (TEXT)</th>
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<tbody>
<tr>
<td><strong>PRE-TREATMENT STAGE</strong></td>
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<tr>
<td>VOICE: Role-play situations 1 and 2</td>
<td>TEXT: Role-play situations 1 and 2</td>
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<tr>
<td>TEXT: Role-play situations 3 and 4</td>
<td>VOICE: Role-play situations 3 and 4</td>
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</table>

The written transcripts of text-based chats and the transcribed voice-based chats will be analyzed for possible evidence of probing question use in both groups and possible evidence of noticing.
One module of the course, Speaking to Patients, will focus on effective use of probing questions in patient-centered medical communicative encounters.

The written transcripts of text-based chats and the transcribed voice-based chats will be analyzed for evidence of noticing of probing questions, self-correction, and uptake in both groups.
As their final assessment, the participants will be asked to role-play situations similar to those that have been offered to them at the pre-treatment stage. Both groups will role-play them in voice and text modes.

The written transcripts of text-based chats and the transcribed voice-based chats will be analyzed for evidence of noticing and learning of probing questions in both groups.
## Data Analysis

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<th>PT/TN</th>
<th>PT/V1</th>
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**VOICE**

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**TEXT**
Findings and Conclusions: Q #1 & 3

**TEXT:**
- PT/TN-MS/TN (Noticing at Midsession in TEXT)
- PT/T2-FT/T2 (Fewer Close Qs at Finals in TEXT)
- PT/V1-FT/V1 (More Open Qs at Finals in VOICE)

**VOICE:**
- PT/V1-MS/V1 (More Open Qs at Midsession in VOICE)
- PT/VN-MS/VN (Noticing at Midsession in VOICE)
- PT/T1-FT/T1 (More Open Qs at Finals in TEXT)
- PT/V1-FT/V1 (More Open Qs at Finals in VOICE)
- PT/VN-FT/VN (Noticing at Finals in VOICE)
Findings: Q #2

S1: “Voice chats. because it seems like the teacher and the student are interacting directly.”

S2: “Voice chats. Although I'm a bit shy to speak and be heard by my fellow classmates, voice chats are more convenient. It helps me improve my oral skills, makes me think fast and of course, less hassle (typing consumes time). Sadly, my microphone isn't working sometimes; that's why, I do text chat.:)”

S3: “For me, I like the voice chats. Because with voice chats you can somehow hear and interpret the emotions of you partner through the tone of his voice. For me the voice chat is more helpful because aside from the exchange of ideas you can also understand his feelings or emotions during the voice chats. Although text chats also are helpful.”

S4: “Text chats. I admit that I myself is not that really good in talking.”

S5: “I prefer text chats because I can have more time to think on how to respond to the questions and it is less embarrassing. :)”

S6: “Actually, for me, its both because it's different when it comes of having chat with the use of text and voice, so its more interactive.”
Questions?

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