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## Editorial

# Privacy Lost

Donald G. Perrin

I recently attended a lecture by David H. Holtzman. He explained in frightening detail how Technology endangers our privacy. He drew attention to the myriad ways personal information is recorded, preserved, used and misused:

It is impossible to walk through this modern world without leaving behind indelible footprints in its silicon sand. Most financial activities for example leave a digital imprint somewhere because a record of every cashless transaction goes into somebody's database. A whole industry has sprung up around selling and storing personal information about our behaviors and activities. Each bit seem innocuous but in aggregate, this electronic montage provides a frighteningly detailed history of what we do, when and where we do it, and whom we do it with . . . we are also tracked by our gadgets, such as cell phones (even when they're off) and Geographic Positioning Systems in our cars . . . Our lives are represented electronically in databases across the world.

The question is whether we are willing to relinquish privacy for benefits these technologies provide. In education we face the same dichotomy, especially in distance learning where students respond online so that every interaction is recorded. Not only is the classroom not private, but automation of record keeping and grade assignment an increasingly used to facilitate academic decision making and planning.

There is a dark side. How viable is this recorded data for future employment, promotion, buying a house, selecting a life partner, or qualification for public office? Yet that is how this data is used. Correlations based on averages are often inappropriate for a specific individual or situation. Poor performance in an early grade can label a student for life; late bloomers fail to be recognized because they bloom late; imperfect testing instruments discriminate against ethnic minorities, disadvantaged communities, and persons with disabilities. Errors and distortions are part of the record and difficult to erase. Often people with unique talents, like Einstein and Winston Churchill, achieve poorly in traditional systems of education.

Why do educators punish students for failure? In human development we know that trial and error – and making mistakes – is an important way to learn. Why do we use old data and old technology to determine the future capability of students? Like medical doctors, we are limited by what we know and the tools available to us. We do make mistakes. We treat symptoms rather than causes. We are biased by our own experience belief systems and training. The power of today's technology and information systems make outcomes of decisions we make far reaching. We have the power, through our decisions and actions, to change live permanently for better or worse.

Educators are more than gatekeepers or suppliers of knowledge. We are increasingly responsible for communication, social, collaboration, and decision making skills. Once we trained "hands" for industry, now we develop "minds". As automation replaces basic skills, creative and decision making skills are more important. We are developing the next generation of citizens – employees and leaders – for a world that exists in the future. It is important to involve students in generation of the knowledge and skills they will need in their personal and professional lives.

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Holtzman David H (2006). Privacy Lost: How technology is endangering your privacy. Josse Bass.



**Editor's Note:** This is a thoughtful study of synchronous computer conferencing and student engagement. It poses and answers questions about techniques used by moderators to stimulate participation, interactions, and learning. It provides useful analyses of approaches used by e-moderators and students.

## Facilitating Educational Synchronous Online Discussions

Shufang Shi, Punya Mishra, Curt Bonk

United States

### Abstract

The goal of the study was to better understand the nature and dynamics of moderated synchronous group discussion as it relates to individual cognition and group interaction. While such a goal is hard to achieve, it lies at the heart of student learning. This study provides a picture of the interactional processes of synchronous online discussion through a descriptive discourse analysis of synchronous computer mediated discussions. The themes emerging from the qualitative analysis, together with the supporting theories and practices, uncover the underlying processes of synchronous computer conferencing in relation to online moderating.

**Keywords:** synchronous online discussion; moderating skills; student engagement; qualitative analysis; transcript analysis.

### Introduction

Online learning has received a great deal of attention. The bulk of research has focused on asynchronous environments. Synchronous communication, by contrast, despite its popularity, has received less research attention. There are also many recent research results from the social presence and online learning community literature that indicate that online students in higher education want and expect more direct and timely interactions with instructors and other students (Bonk, Wisher, & Nigrelli, 2006). As learners begin to demand more synchronous opportunities, research on synchronous conferencing is needed to inform how, when, and where to embed real-time virtual learning experiences. Of great interest is better understanding of how instructors manage the ebb and flow of classroom discussion.

The core issue of the study was to investigate what role teacher moderators play in enhancing student engagement through collaborative discourse, and, specifically, *how* moderating functions worked in terms of the collaborative meaning construction process in synchronous computer mediated discussion.

### Theoretical Perspectives

To moderate is to preside or to lead (Feenberg, 1989a; Mason, 1991; Paulsen, 1995). Drawn on the idea of discussion as language games (Wiittgensein, 1958), moderating functions play an important role in keeping participants absorbed in the ongoing dialogue “game.” *Playing* at computer conferencing consists of making moves that keep others playing (Xin, 2002). In this way, computer conferencing favors open-ended comments, and this calls for a moderator who provokes and instigates in order to keep the game alive. When a message fails to function as a link, at one end or the other, moderating functions (e.g., recognition, prompting, weaving, etc.) are needed to tie up the loose ends and strengthen the link in order to keep the chain of conversation going (Xin, 2002). Collins, Brown, and Newman (1989) ideas related to effective strategies for apprenticeship, Rogoff’s (1990) model of apprenticeship in thinking as well as

guided learning, and Bruner's adaptation of Vygotsky's "zone of proximal development" including the supportive dialogue within that zone - or "scaffolding" (Ninio & Bruner, 1978) - are all analogies employed to illustrate an assistive role for teachers in providing instrumental support to students from their position of greater knowledge content (Bonk & Cunningham, 1998; Garrison & Archer, 2000).

According to Garrison, Anderson, and Archer (2001), while individual learning can occur through independent or self-directed study, it is only through active intervention of a teacher or moderator that a powerful communication tool, such as collaborative computer conferencing, becomes a useful instructional and learning resource (Paulsen, 1995).

The effective use of moderating functions addresses a central problem or concern of computer conferencing: namely, online leadership. The effective use of online moderating functions supports and facilitates student engagement and ensures that a healthy context is established and maintained where learning progress is made through sustained dialogue. On the social-emotional side, the use of moderating functions attempts to sustain class dialogue while, at the same time, maintaining the social milieu needed to encourage democratic participation and interaction. On the knowledge construction side, because moderating functions encapsulate cognitive acts, the effective use of them necessarily fulfils an intellectual role. Through the exercise of moderating functions, the moderator helps learners engage with the subject matter, deepen their understanding, and work together toward idea integration and convergence (Xin, 2002).

According to Winograd (2002), an online moderator wears many hats, including lecturer, tutor, facilitator, mentor, assistant, provocateur, observer, host, and participant. A moderator is a generalist who is sensitive to the individual needs as well as the dynamics that make up the conference. Through this sensitivity, a moderator can grasp when a conference is doing well or poorly and decide what action to take if a conference is going awry (Winograd, 2002).

Obviously, a moderator needs to know when to wear which hat and how to perform the role accordingly. There is increasing literature that discusses the role of the moderator (Berge & Collins, 1995; Rohfeld, & Hiemstra, 1995), moderating functions (Feenberg, 1989b), and online teaching presence (Anderson, et al. 2001). Based on a broad literature review, Xin (2002) compiled a list of moderating functions.

One of the most important functions a moderator plays in online discussions (and such is the case in this study as well) is that of the subject matter expert. Thus, the moderator is expected to provide both direct and indirect instruction by interjecting comments, referring students to information resources, and organizing activities that allow the students to construct the content in their own minds and personal contexts. For instance, in this study, although the conferences were all structured - with pre-specified syllabi and agenda - the moderator played a critical role in ensuring that students were learning the material. This is clearly a difficult task, requiring the balancing of time pressure in monitoring and responding to a plethora of ideas and comments, while capturing one's thoughts about subject matter and ideas in fairly pithy and understandable postings. Clearly it is important for research to provide guidance to moderators through analysis of effective moderating behaviors in order to catalog, capture and describe best practices that can inform future practice.

## Research Context and Data Collection

The research context of this study was an online three-credit course on interpersonal communications and relations of a Canadian University, delivered through a real-time, interactive text, image, and animation messaging system called the "Learnbydoing eClassroom." The eClassroom consisted of a main room and four breakout rooms for small online group activities and discussions. All eClassroom activities and interactions took place in real-time. Unlike most

online courses in higher education, nothing occurred asynchronously (Lobel, Neubauer, & Swedburg (2002a, b).

The prime data source for this study consisted of 44 automatically archived conference transcripts from an online course, each with an average of 350 postings. In order to better understand the context within which these discussions worked and to help triangulate research results (Patton, 2002), additional sources of data were collected, including field notes taken by the researcher through participant observation, other class materials such as the course syllabus, the course readings, classroom activity agendas, and all of the course assignments. These data help to define the context of each conference.

## Research Design and Data Analysis

The qualitative analysis process consisted of four phases. The first phase took place before the computer conferencing sessions started. The researcher identified the central parameters underpinning the conferences such as the background information, class objectives, and approaches to moderation (Keynes, 2003). These data provided a broader context for the transcripts in our analyses.

The second phase occurred during the synchronous computer sessions. During this phase of the study, the researcher was a participant observer of the synchronous online discussion sessions. Field notes were taken during the observation.

The third phase of the qualitative analysis involved reading for a general picture or impression as well as reading to locate transcripts or sections of transcripts of interest for more detailed analyses. During this phase, some perceptions and loosely defined themes emerged.

The fourth phase of qualitative analysis was an intensely purposeful analysis of the transcripts selected based on the quantitative analysis results using computer-mediated discourse analysis, a widely used approach for researching online interactive behavior (Herring, 2003). These qualitative analyses explored the methods of moderating used in the conference as well as the effect of the moderating on the patterns of the electronic discussions and knowledge construction (Keynes, 2003). The basic goal of such discourse analysis is to identify patterns in online discourse that are demonstrably present, but that may not be immediately obvious to the casual observer or to the discourse participants themselves. In this particular study, the discourse analysis helped identify emergent patterns and themes that were related to teacher moderating behaviors and student intellectual engagement. These themes as well as the practices of the moderators are described in the following section.

## Results

During the process of the analyses, themes of effective moderating strategies emerged and these themes were labeled “good moderating practices.” The themes were organized into five major categories and each theme will be presented in a three-part format: (1) the theme - the structuring and moderating efforts that were actually provided by the instructors during the course of the online collaboration; (2) theories that underpin the theme; and (3) supporting examples followed by a brief discussion on how these efforts may have impacted the subsequent discussion. The five themes are as follows:

1. Providing hooks with both ends;
2. Modeling and tele-mentoring;
3. Confronting and conflicting;

4. Setting up norms; and,
5. Social-emotional elements.

While this does not provide an exhaustive list of moderating functions, it does serve to highlight some observations of good moderating practices and how they affected the meaning construction process where scenarios of learning were seen to take place.

## Providing Hooks with Both Ends

Some researchers (e.g., Feenberg, 1989) use sports and language games as a metaphor to illustrate the satisfaction of playing an engaged dialogue game. “Play” at online discussion consists of making moves that keep others playing. Therefore, to sustain the dialogue game, every message fulfils a double goal: (1) communicating something, and (2) evoking future responses (Feenberg & Xin, 2002). In this vein, each message functions as a link that at one end that connects to one or multiple previous messages, and, at the other end, provides a hook for creating future message(s) (Xin, 2002).

In the examples below, the researchers will review moderating postings with hooks, postings without hooks, or postings with hooks that had only one end - postings that either only solicited without providing context or related materials, or only summed up previous messages. Discussions on both positive and negative examples allow inspection of the effect of postings with or without hooks.

### ***Example #1 Moderating by Posting Hooks on Both Ends***

678 Mon, Oct 27 9:41pm -- Amy

Amy

so

we agree that there were no differences in wanting to be good and fun people

the differences are in how we go about this

so

What do you see are the implications of these differences?

(Transcript #5, October 27, Group 4)

The topic of this class was the Myers Briggs Personality Type preference (MBTI), and how one's own MBTI personality type preference can affect interpersonal relationships. In the postings prior to this excerpt students talked about the differences of the personality types and that thread was fairly extensive - about ten messages. At this point, the moderator (i.e., Amy) posted a message that not only strongly weaved what was discussed in the previous messages but also provided a hook for future messages.

However, providing a hook did not always activate discussion on the topic. After the message was posted, it was perhaps not processed well or interpreted properly, and the topic “implications of these differences” failed to become fully developed. One possible reason was that these students might have had difficulties processing this question. Therefore, the moderator used an example to interpret the question, shown in message #693.

### ***Example #2 Moderating by Posting with Hooks***

693 Mon, Oct 27 9:44pm -- Amy

Amy

what if your parents are big time organized people

and your style is to go with the flow  
what are the implications of these preferences for you  
(Transcript #5, October 27, Group 4)

After this particular posting, the discussion was developed but not as much as might be expected because the discussion was drawing to an end, and, not surprisingly, students could not stay well focused.

It is also helpful to review moderating postings without hooks, or postings with hooks that had only one end - postings that either only solicited without providing context or related materials, or only summed up previous messages. What effects did such postings produce?

**Example 3: Moderator Postings with Hooks on Only One End**

207 Mon, Nov 3 8:11pm -- Jodi

Jodi

Marie: #197 What would you need to get the same feeling in a f2f class?

Renee: What is the meaning of your message-4?

215 Mon, Nov 3 8:12pm -- Jodi

Jodi

Renee: Can you articulate more?

219 Mon, Nov 3 8:13pm -- Jodi

Jodi

Arlene: #216 Why do you think that is?

(Transcript #7, November 3, Group 1)

The topic of this discussion was students' feelings about the absence of moderators. In the postings prior to this excerpt, students talked about their feelings. The moderator in this group posted messages without hooks or with hooks that were very flat and weak, or hooks that had only one end that functioned as "soliciting without providing context and related materials". Furthermore, using serial numbers of postings as a reference did not work well because the flow of the messages was so quick that it was not convenient or practical for students to scroll back and forth to address a moderator's question. The effects of these postings were not obvious. Post #207 was not addressed at all nor was post #215, while post #219 was picked up but without deep reflection. Here are more examples of hooks with only one end.

**Example 4: Moderator Postings with Hooks on Only One End**

283 Mon, Nov 3 8:27pm -- Lindsey

Joyce: that is a great observation... "So I think people have underestimated their skills. I believe this group would average a 4 in most of those questions"

(Transcript #7, November 3, Group 1)

Moderator Lindsey summarized without suggesting next steps. Postings like these were "flat"- they did not weave with other postings or provoke further discussion – and, consequently, they failed to produce additional discussion. This posting activated no further responses.

Finally, we could observe how moderator Amy strongly weaved and wrapped up to finish her class with a pleasant conclusion wherein she praised the participants.

**Example 5: Moderator Postings That Strongly Weaved and Wrapped up Discussion**

288 Mon, Oct 20 10:05pm -- Amy

Amy

ok

i'm aware of the time

just want to say how impressed i am again with this group

we did a bunch of totally new and bewildering activities

used the whiteboard, filled in questionnaires, without java and so on

and you were all troopers

i feel so proud for all of you

and i want to thank you for being so open and accepting, as i remind you

that we are all learning here, as we keep pushing that envelope

i bow to each of you

(Transcript #5, October 20, Group 4)

When the discussion went deep enough and the current thread ran out of energy, Amy added new directions for the discussion. She provided a hook with both ends, this time, putting more weight on the end that intended to elicit future responses—"I have a question ...?" Amy here actually articulated the major question/objective of the whole discussion. Amy posted this question after the "inclusion" topic was discussed thoroughly, which was timely and fortuitous. What's more, she made the question relate to their (the group's) present online experience "what do we each need to feel like we belong in this group?"

This question activated several other rounds of extremely heated and lively discussion. With Amy using different moderating strategies skillfully, students stayed well on-task and produced sharp and deep reflections, together with informal banter and elements of humor as lubricants. All of these elements are reflective of students being engaged behaviorally, social-emotionally, and intellectually.

## 2. Modeling and Tele-mentoring

As a relatively new learning method, online collaboration itself is a learning process that needs scaffolding from capable experts to smooth the process as well as to guide the content learning to achieve smooth, effective online collaborative learning (Zhang, 2004). Instructors are expected to provide supports in the collaborative learning process by motivating students, monitoring and regulating performance, and providing reflections, modeling, moderation, and scaffolding (Brandon & Hollingshead, 1999; Brown & Palinscar, 1989; Zhang, 2004).

Vygotsky proposed that learning occurs in social activities (Vygotsky, 1978), and that complex, higher-order thinking gradually develops through social interactions with others in the culture (Gredler, 1997; Vygotsky, 1978). According to socio-cultural theorists, people learn from mediations and scaffoldings, which are offered within one's zone of proximal development (ZPD) from experts or more capable peers (Bonk & Cunningham, 1998; Gredler, 1997; Wertsch, 1985). Vygotsky defined ZPD as the distance between a person's independent competency and that obtained with assistance from an expert or in collaboration with more capable peers (Wertsch, 1985). Such a distance can be bridged and extended through scaffolding efforts, as external assistance is gradually reduced and the learner finally achieves independent competency in the task (Gredler, 1997).

In this particular study, there were various degrees of effectiveness in performing moderating functions such as recognition and prompting. The mere performance of recognition and prompting without involving the real substance of the subject matter did not always generate positive effects (i.e., increased participation and interaction). As Xin (2002) observed, just being a cheerleader is not enough. It sometimes worked at the beginning of a seminar; however, the effect

diminished quickly if there was no real intellectual substance combined with the cheering and soliciting. When a moderator was demonstrating and modeling, perhaps within the zones of proximal development of some of the individuals and coupled with deep engagement with real issues related to the topic, participants were drawn into the discourse.

**Example 6: Moderator Postings Involving Demonstrating and Modeling**

132 Mon, Sep 29 9:30pm -- Amy

Amy  
i like the fact that it is an 'i statement'  
it describes without evaluating or judging what i observed  
ie. you are driving at 150miles/hour  
and not  
you are driving like a maniac  
then, i get to say what i feel  
that's not negotiable  
if i say i feel scared, no one can tell me i don't, or shouldn't  
then i like the part where i get to elaborate on my reasons, though this  
part is not always necessary  
finally, i like the part where i can tell you what i need  
i sure did not like it at first  
criticized it, refused to use it consistently  
till my friend said  
ah, i see... you really don't wish to be heard, right?

(Transcript # 4, September 29, Group 4)

In message #132, Amy posted new questions in order to bring the discussion to a deeper level (note that these questions were not included in the original agenda, but Amy raised these questions according to the situation - some students felt frustrated when beginning to discuss the formula). After most group members responded to the questions, Amy posted her way of looking at the formula using personal experience and reasoning at message #132. She was demonstrating and modeling, perhaps within the zones of proximal development of some of the individuals.

**Example 7: Moderator Postings Involving Demonstrating and Modeling**

187 Mon, Sep 29 9:50pm -- Philippe

Philippe  
mom, i am frustrated that we seem to miscommunicate as to what you need me  
to do to help out with dad. i feel like there is more that i can do, but i  
feel that you do not communicate this to me clearly. i would like to do  
what i can, but i need you to help me to understand what this is.

193 Mon, Sep 29 9:54pm -- Amy

Amy  
Philippe: notice the 'you statement' you are making  
how may you change that, i.e.  
mom, when we discuss the type of help you need from me, i feel frustrated

because i am not clear as to what you think i could be doing and i need you to be clear about what you think and say?

(Transcript # 4, September 29, Group 4)

Students were asked to put forward a formation based on the formula given. Group member Philippe did so in message #187. Moderator Amy gave concrete suggestions to individuals through modeling at message #193. The following is a similar example.

### **Example 8 Moderator Postings Involving Online Modeling**

349 Mon, Sep 22 8:44pm -- Philippe

Philippe

Cheryl : no way, i don't think you come across as a pessimist. There's soooooooooooooo much to take in, so much going on, and your picture reflects that

363 Mon, Sep 22 8:48pm -- Amy

Amy

Philippe: what seems to be missing in this environment are the eye balls we all imagine are out there judging us of course, those eyeballs rarely bother, being too busy worrying about their eye balls

but face2face, we imagine people see exactly what we wish to hide

here, there is a sense of perceived anonymity and safety

no eyeballs

you're at home

have more time to think here also...

(Transcript # 4, September 29, Group 4)

Message #363 posted by moderator Amy was intended to answer the above message - message #349 - and a few other messages in which Philippe and other group members felt that people tended to use the Internet, but he failed to clearly articulate his reasoning. Amy clarified what the students wanted to say but that they were apparently unable to articulate. In this sense, students' ZPDs were bridged. Based on this scenario, it appears that to moderate well, one needs not only effective scaffolding skills, but also sufficient knowledge of the area and ability to offer reflective comments and critical thinking or analyses.

### **3. Confronting and Conflicting**

Social cognitive conflict theory (Clement & Nastasi, 1988; Piaget, 1977) provides insights on how online discussion can serve as a valuable contribution to learning. The underlying assumption of this theory is that knowledge is motivated, organized, and communicated in the context of social interaction. Doise and Mugny (1984) argued that when individuals operate on each other's reasoning, they become aware of contradictions between their logic and that of their partner.

In effect, the struggle to resolve these contradictions propels them to new and higher levels of understanding. Research by Bearison (1982) as well as Perret-Claremont, Perret, and Bell (1980) supports the assertion that the conflict embedded in a social situation may be more significant in facilitating cognitive development than the conflict of the individual focusing alone (Rourke & Anderson, 2002). In Rourke and Anderson's (2002) study, interviewed students claimed that the additional perspectives offered by others in the form of opinions, personal experiences, and

analogies added to their understanding of the content, and made it more concrete. Contradictory perspectives disturb their initial impressions of the content and prompt learners to process it more thoroughly. This latter process, however, can only be precipitated by challenging and critical interactions. As Brown (1989) notes: “change does not occur when pseudo-consensus, conciliation, or juxtaposed concentrations are tolerated” (p. 409). There is little argument that learning may be defined as the progressive modification of ideas and behaviors through interpersonal interaction.

There were times in this study when students became frustrated and they complained. Is it better for the instructor moderator to confront these reactions or to ignore or avoid them? Moderator Amy’s practices provided some insight into this question. In Example 9 below, she confronted students’ complaints:

**Example 9: Moderator Postings that are Confrontational**

170 Mon, Nov 3 7:59pm -- Olga

Rose: are they doing it again? This class is slow I’m starting to get annoyed... I’m only on 3hrs of sleep for 2 nights now...

176 Mon, Nov 3 8:00pm -- Amy

Amy

hmmm

a trick?

well

it was more like providing you with an experience of possible discomfort

the main risk is that you would get pissed at us, but hey,

we were willing to live with that

so if there was a trick, excuse me, but it is on us?

190 Mon, Nov 3 8:02pm -- Amy

Ofelia:

i would love to explain

i dont know which part you are not understanding though.

(Transcript #7, 8, 3<sup>rd</sup>, Group 4)

As an experiment, moderators did not arrive on time to see how students would react. Later, when the truth was revealed, some students complained and said it was a trick and they did not like it. Moderator Amy reacted by confronting the complaints. The effect of this was that students reached understanding (or were pacified) and the discussion returned to task-oriented issues. In other groups, complaints about being tricked were not addressed by the moderators, resulting in stifled or digressive discussions.

**Example 10: Moderator Postings that Lead to Stifled Discussion**

148 Mon, Oct 20 9:33pm -- Philippe

i think this was kind of a dumb assignment. i mean, all the questions were

basically just different ways of re-wording the same question, and i'm

just not convinced that the results are very meaningful

158 Mon, Oct 20 9:34pm -- Amy

Amy

Philippe: i'm not a fan of questionnaires myself

yet this one is actually a very good one, in as much as it has very high internal validity and is used in many selection processes both in academy and in corporations.

i would suggest we get past what we don't like though and look at what is useful about this whole issue of learning and learning style.

(Transcript #5, October 20, Group 4)

Here is another example of a student complaint. One student complained about the assignment in message #148 and called it "dumb" and not meaningful. In posting #158, the moderator handled the complaint by voicing her opinion and suggesting more positive reactions: to find what was useful about the whole experience.

It is extremely interesting that some active individuals defended and debated fairly different and conflicting ideas. They noted their different viewpoints from their peers as well as from the moderator; in fact, there were also occasions where they agreed to disagree. As they assumed or appropriated roles that the moderator modeled, they began to share the role of a moderator. Here are some examples.

***Example 11: Students Assumed the Roles that the Moderator Modeled: Confrontational and Fostering Debate***

501 Mon, Sep 22 9:51pm -- Gabriel

Brandie, i would tend to think in the ways of "well he got what he deserved" which might not be the RIGHT thing to do.

507 Mon, Sep 22 9:52pm -- Gabriel

Tracy: that doesn't sound too healthy. Don't you think that sometimes if you consciously behave the way you do, people will start to think that you're getting annoying?

512 Mon, Sep 22 9:53pm -- Samantha

Tracy: I voice my opinion a lot too, but you have to know when to keep it closed sometimes.....it CAN get you in trouble....

526 Mon, Sep 22 9:56pm -- Gabriel

But hold on, all this THEORY is nice and dandy but is this the way the world really works? I would think not. I would think the world works with 'survival of the fittest in mind'. Those who can empower others and order others around always seem to win?

529 Mon, Sep 22 9:56pm -- Evangelos

Brandie makes a good point. If you agree with the 2 people (in a cheating situation) it probably wouldn't bother most people as much. I, personally, feel that no one should be belittled even when they do something like cheating

545 Mon, Sep 22 10:00pm -- Gabriel

Myrna: Yes. I'm sure it doesn't ALWAYS work that way, but the world is a competitive Arena first, a democratic society second.

553 Mon, Sep 22 10:02pm -- Brandie

Brandie

Myrna: No i don't think it sounds selfish to respect yourself...hmmmm...but to put priorities in me before others does sound selfish..

555 Mon, Sep 22 10:03pm -- Gabriel

But is simply being AWARE only a way to excuse your cowardice and non-action?

(Transcript #3, September 22, Group 2)

Postings from example #11 show when individuals operate on each other's reasoning, they become aware of contradictions between their logic and that of their partners. The struggle to resolve these contradictions might very well propel them to new and higher levels of understanding.

#### **4. Setting up Norms**

As the focus changes from "teaching" to active "learning," the instructor must take substantial responsibility for fostering a learner-centered peer collaborative learning environment. Group dynamics contribute to students' performance in collaborative learning and to their satisfaction with the learning experience (Bosworth & Hamilton, 1994). Some participants' "free riding" and "social loafing" actions as well as their failure to contribute, however, can damage others' enthusiasm and motivation in the course of collaborative learning. In addition, the feeling of "talking in a vacuum" with online collaboration, frustrations with technology, and other factors make online collaboration a challenge to many participants (Flannery, 1994; Zhang, 2004). What did expert moderators do to activate participation of all group members? Here is one example.

##### ***Example #12 Moderator Postings that Set up Norms***

467 Mon, Sep 22 9:37pm -- Amy

be fun to count all the languages between us  
another thing that would be good, for the rest of the semester, if we all  
agreed to some protocol  
like for example  
when it comes to taking turns, how about we use the room menu?  
whomever is first there, goes first and so on  
that way, the Johari window of the group would enlarge some  
we will all know that this is how we do an activity  
i need feedback  
does this make sense?

(Transcript #3, September 22, Group 4)

Here, in the beginning of the second part of the conference, moderator Amy was setting up norms for the discussion. She proposed that people take turns. Apparently, students did not understand her directions. She stopped some off-task discussion in message #474. She posted the main discussion topic in message #491 and then clarified in message #492. After Amy set up the norms and gave clear direction and guidance, the discussion did not apparently need as much prodding but, nevertheless, continued in an active and lively manner.

#### **5. Social-emotional Elements**

In the virtual environment, as in the face-to-face environment, students naturally showed affective reactions - interest, boredom, happiness, sadness, and anxiety (Fredricks, et al., 2004). The social dimension is a crucial factor in determining the "climate" of conferences, that is, the willingness of people to contribute and engage seriously with the effectiveness of the discussion (Keynes,

2003). In addition to constantly checking the task progress, the instructor also needed to provide motivational moderations by recognizing individuals engaged in active collaboration as well as simultaneously encouraging others who were absent from the discourse or less active to be more active participants.

**Example #13: Mixing Moderation with Social Emotional Elements: Motivational Moderating**

366 Mon, Sep 22 8:50pm -- Amy

Amy

Ofelia: smile

yes

i earn my living with such things

John: lol

good job!

Fiona

are you here?

(Transcript # 3, September 22, Group 4)

**Example #14: Mixing Moderation with Social Emotional Elements: Motivational Moderating**

495 Mon, Sep 22 9:41pm -- Amy

Amy

Rose: oh dear

you are tired

we just had 10 minutes or so

hugging you

so

lets go

(Transcript # 3, September 22, Group 4)

It is difficult for the quantitative analyses to find significant effects of teacher's moderating levels on student social emotional engagement because of the various limitations of the measures. However, it is useful and informative to observe the efforts that moderators made to facilitate student Social-emotional Engagement. The above are only some of the several pertinent examples.

## Discussion

Using the quantitative analysis results as a guide, the researchers identified transcripts and sections of transcripts for qualitative analysis. Putting the transcripts and sections of transcripts of interest in both their broader and immediate context, the descriptive discourse analyses resulted in a general picture of the interactive process of synchronous online discussion through the analysis of sections of transcripts. Five themes of effective moderating strategies, together with the supporting theories and practices, were discussed and these themes are:

- (1) providing hooks with both ends;
- (2) modeling and tele-mentoring;
- (3) confronting and conflicting;

- (4) setting up norms; and
- (5) social-emotional elements.

While this does not provide an exhaustive list of moderating functions, it does serve to highlight some observations of good (and not-so-good) moderating practices and how they affected the meaning construction process where scenarios of learning were seen to take place (or not). We argue that these themes, emerging as they do from the qualitative analyses, (and consistent with existing theories and practices), show the manner in which instructors manage the ebb and flow of synchronous discussion as well as how this affects student engagement.

Compared to asynchronous conferencing, synchronous conferencing has received much less attention in both practices and in research. If synchronous conferencing begins to impact teaching and learning at even one-tenth the degree to which asynchronous conferencing has played a role in reshaping higher education courses during the past decade, there will be a tremendous need to understand student engagement and participation and teacher facilitation and moderation in such environments. Already, numerous indications from corporate training suggest that synchronous forms of learning can play a significant role in adult learning. There are also many recent research results from the social presence and online learning community literature that indicate that online students in higher education want and expect more direct and timely interactions with instructors and other students. As they begin to demand more synchronous opportunities, research such as the present study can better inform how, when, and where to embed real-time virtual learning experiences.

To moderate is to preside or to lead (Feenberg, 1989a; Mason, 1991; Paulsen, 1995). Computer conferencing – especially synchronous conferencing calls for a moderator who provokes and instigates in order to keep the interactions alive. When a message fails to function as a link, at one end or the other, moderating functions are needed to tie up the loose ends and strengthen the link in order to keep the chain of conversation going (Xin, 2002). In this vein, moderators provide assistive roles in providing instrumental support to students from their position of greater knowledge content (Bonk & Cunningham, 1998; Garrison & Archer, 2000).

What is not clear is how much “scaffolding” is required or is appropriate. The literature on online discussion has tended to favor high levels of moderating. Based on the over-arching ethos of good teaching and learning (The Report of the University of Illinois, 1999) and the limitations of computer conferencing, researchers have often argued for strong online moderating. Studies have shown that when learning based on computer conferencing fails, it is usually because of the lack of teaching presence and appropriate online leadership (Garrison, et al., 2001; Gunawardena, Anderson & Lowe, 1997; Harasim, 1990; Hiltz et al., 2000). However, researchers have identified problems when the instructor exclusively assumes the role of discussion leader (Rourke & Anderson, 2002), and, as such, inhibit the free exchange of ideas. Meanwhile, many corporate training settings favor independent study and self-directed online learning. Some practitioners of online teaching prefer not to moderate online discussions since they think the teacher’s intervention may limit students’ freedom in the discussion.

The methodologies and findings of this study contribute to a better understanding of how teachers can provide effective online mentoring and scaffolding to facilitate student engagement with each other and with the subject matter. Findings from this research should inform research and practice on the larger goal of improving the quality of online teaching and learning.

Analysis of synchronous computer conferencing transcripts provides a way to decrypt the interactional patterns of group discussion in order to understand the learning process of individuals who participate in the discussion. It also elicits data useful for gauging the efficacy of interaction among instructors and students. The analysis of the transcripts of computer

conferences can also shed light on how the collaborative learning process can be supported, sustained, or hindered (Henri & Rigault, 1996). Only when we have a better understanding of what is happening in computer conferencing can we offer specific suggestions about how to make use of this medium for learning (Henri, 1992). This understanding comes only from a finer-grained analysis of the content of the conferencing as the present study does.

## Limitations and Suggestions for Future Research

The study was made in a specific context: a synchronous, online, three-credit university level course structured and moderated by instructors. The course had its own unique subject matter, tasks, and structure. The study was a quasi-experimental research project. The assignment of group membership and moderators used some randomization. In theory, a true randomization would have involved randomly assigning individuals to controlled or pre-selected moderating conditions.

Future studies might attempt to control teacher moderating levels to examine the effects of moderating on student engagement. Future studies might also observe students as they progress through a second or third course with this tool, i.e., conducting a longitudinal study.

As indicated, the primary data used for this study were automatically archived transcripts. Future studies can collect robust data - such as surveys, interviews, focus groups, and course products - to help build a deeper understanding of the issues and problems underlying synchronous online learning. It might also be possible to have students retrospectively reflect on their chat transcripts or watch and comment on a replay of their synchronous chat sessions. Instructors, too, might be involved in such retrospective analyses.

Another key limitation was that this study was based on one kind of technology - a synchronous conferencing tool that has its own unique features, options, and limitations. There is an enormous variety of conferencing tools, both asynchronous and synchronous. Even commonly used and debated synchronous tools such as Adobe Connect Pro (i.e., formerly Breeze), CCCConfer, Centra, Wimba (formerly HorizonLive), Interwise, LiveMeeting, NetMeeting, and WebEx may provide different learning environments with vastly different affordances and constraints.

Given the current emphasis on blended learning environments, yet another limitation here was that our study was based on one level of technology application. It occurred totally online, without any face-to-face meetings. Differences in any of these aspects might generate different needs for moderation (Zhang & Ge, 2003). This study is only one look at online synchronous moderation. It provides a humble starting point for future empirical studies. To understand the dynamics of synchronous online conferencing, research must consider all aspects of online collaborative learning simultaneously: the individuals, the group, the team task, and the delivery media (Zhang & Ge, 2003).

This study linked both the processes and the educational objectives of computer conferencing to student engagement. As such, it fills a significant gap in the synchronous conferencing literature. Eventually, research in this area can extend to online training programs and curricula. The results of the study may help researchers and practitioners develop better protocols for moderating online discussions. Such knowledge is essential if online learning (particularly synchronous conferencing) is to achieve its full potential.

## References

- Anderson, T. Rourke, L, Garrison, D. R. & Archer, W. (2001) Assessing teaching presence in a computer conferencing context. *Journal of Asynchronous Learning Networks* 5(2).
- Bearison, D. J. (1982). New directions in studies of social interaction and cognitive growth. In F. C. Serafica (Ed.), *Social-cognitive development in context*. (pp. 199–221). New York: Guilford Press.
- Berg, Z. L., & Collins, M. P. (Eds.) (1995). Computer-mediated communication and the online classroom, Volumes I, II, and III. Cresskill, NJ: Hampton Press Inc.
- Bonk, C. J., & Cunningham, D. J. (1998). Searching for learner-centered, constructivist, and sociocultural components of collaborative educational learning tools. In C. J. Bonk, & K. S. King (Eds.), *Electronic collaborators: Learner-centered technologies for literacy, apprenticeship, and discourse*. 25-50). Mahwah, NJ: Erlbaum.
- Bonk, C. J., Wisher, R. A., & Nigrelli, M. L. (2006). Learning communities, communities of practice: Principles, technologies, and examples. In K. Littleton, D. Faulkner, & D. Miell (Eds.), *Learning to collaborate, collaborating to learn*. NOVA Science.
- Brandon, D. & Hollingshead, A. (1999). Collaborative learning and computer-supported groups. *Communication Education*, 48(2), 109-126.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18, 32-42.
- Brown, A. & Palincsar, A. (1989). Guided cooperative learning and individual knowledge acquisition. In L.B. Resnick (Ed.), *Knowing, learning, and instruction, Essays in honor of Robert Glaser* (393-451). Hillsdale, New Jersey: Erlbaum.
- Cazden, C. B. (2001), *Classroom Discourse: the Language of Teaching and Learning*, Heinemann, Portsmouth: NH.
- Collins, A., Brown, J.S. & Newman, S.E. (1989). Cognitive apprenticeship: Teaching the craft of reading, writing and mathematics. In L.Br Resnick (Ed.), *Knowing, learning and instruction: Essays in honor of Robert Glaser*. Hillsdale, NJ: Erlbaum. 453-494
- Doise, W. & Mugny, G. (1984). *The social development of the intellect*. Oxford: Pergamon Press.
- Garrison, D. R., & Archer, W. (2000). A transactional perspective on teaching and learning: A framework for adult and higher education. Oxford, UK: Pergamon, 2000.  
<http://www.atl.ualberta.ca/cmcpublications.html>.
- Garrison, D.R., Anderson, T., & Archer, W. (2001) Critical thinking, cognitive presence, and computer conferencing in distance education. *American Journal of Distance Education*, 15(1), 7-23. Retrived May 25, 2005 from  
<http://www.atl.ualberta.ca/cmcpublications.html>.
- Gredler, M. E. (1997). *Learning and Instruction, Theory into Practice*. New Jersey: Merrill, Prentice Hall.
- Feenberg, A. (1989). The written world. In R. Mason & A. Kaye (Eds.), *Mindweave: Communication, computers, and distance education* (pp. 22-39). Oxford: Pergamon Press.

- Feenberg, A., & Xin, M. C. (2002). *A teacher's guide to moderating online discussion forums: From theory to practice*. Retrived April 2005 from <http://www.textweaver.org/modmanual4.htm>.
- Fredricks, J. A., Blumenfeld, P.C., & Paris, A. H. (2004). School Engagement: Potential of the Concept, State of the Evidence. *Review of the Educational Research*. 74(1).
- Harasim, L. (1990). Online education: An environment for collaboration and intellectual amplification. In L. M. Harasim (Ed.), *Online education: Perspectives on a new environment* (pp. 39-63). New York, NY: Praeger Publishers.
- Henri, F. (1991). Computer conferencing and content analysis. In A. Kaye (Ed.), *Collaborative learning through computer conferencing* (Vol. 90, pp. 117-136). Berlin: Springer-Verlag
- Henri, F., & Rigault, C. (1996). Collaborative distance learning and computer conferencing. In T. Liao (Ed.), *Advanced educational technology: Research issues and future potential* (Vol. 145, pp. 4576). NY: Springer.
- Herring, S. C. (2003). Computer-mediated discourse analysis: An approach to researching online behavior. In S.A. Barab, R. Kling, & J.H. Gray, (Eds.). *Designing for Virtual Communities in the Service of Learning*. New York: Cambridge University Press. Retrieved April 15, 2005 from <http://ella.slis.indiana.edu/~herring/cmda.html>
- Hilzt, S.R. , Coppla, N., Rotter, N., & Turoff, M. (2000). Measuring the importance of collaborative learning for the effectiveness of ALN: A multi-measure, multi-method approach. *Journal of Asynchronous Learning Networks*. 4(2). Retrieved on October, 10, 2004 from [http://www.alnresearch.org/JSP/papers\\_frame\\_1.jsp](http://www.alnresearch.org/JSP/papers_frame_1.jsp)
- Keynes, M. (2003) Sharpening the focus: methodological issues in analyzing on-line conferences. *Technology, Pedagogy and Education*, 12 (3).
- Liu, X., Bonk, C. J., Magjuka, R. J., Lee, S. H., & Su, B. (2005). Exploring four dimensions of online instructor roles: A program level case study. *Journal of Asynchronous Learning Networks*. 9(4). Retrived July 27, 2006 from <http://www.sloanc.org/publications/jaln/v9n4/index.asp> and [http://www.sloanc.org/publications/jaln/v9n4/v9n4\\_liu\\_member.asp](http://www.sloanc.org/publications/jaln/v9n4/v9n4_liu_member.asp).
- Lobel, M., Neubauer, M. & Swedburg, R. (2002a) The eClassroom used as a teacher's training laboratory to measure the impact of group facilitation on attending, participation, interaction, and involvement. *International Review of Research in Open and Distance Learning*, October, 2002. Retrieved September 23, 2004 from: <http://www.irrodl.org/content/v3.2/Ins.html>.
- Lobel, M., Neubauer, M. & Swedburg, R. (2002b) Elements of group interaction in a real-Time synchronous online Learning-By-Doing classroom without F2F participation, *Journal of the United States Distance Learning Association*, 16 (2). Retrieved April 20, 2004 from: [http://www.usdla.org/html/journal/APR02\\_Issue/article01.html](http://www.usdla.org/html/journal/APR02_Issue/article01.html).
- Mason, R. (1991). Moderating educational computer conferencing. *DEOSNEWS*, 1(19), 1-11. Retrieved on June 20, 2003 from <http://pchfstud1.hsh.no/hfag/litteratur/jenssen/deosnews/mason.htm> on June 20
- Patton, M. Q. (2002), *Qualitative research and evaluation methods*, 3rd ed. London: Sage.
- Paulsen, M. P. (1995). Moderating educational computer conferences. In Berge, Z. L. & Collins, M. P. (Eds.). *Computer-mediated communication and the on-line classroom in distance education*. Cresskill, NJ: Hampton Press.

- Perret-Claremont, A., Perret, J., & Bell, N. (1980). The social construction of meaning and cognitive activity in elementary school children. In L.B. Resnick, J.M. Levine, & S.D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 41–62). Washington, DC: American Psychological Association.
- Piaget, J. (1977). *The development of thought: Equilibrium of cognitive structures*. New York: Viking Press.
- Rogoff, B. (1990) *Apprenticeship in thinking*. New York: Cambridge University Press.
- Rohfeld, R. W. & Hiemstra, R. (1995). Moderating Discussions in the Electronic Classroom. In Berge, Z.L. & Collins, M.P. (Eds). (1995). *Computer-mediated communication and the on-line classroom in Distance Education*. Cresskill, NJ: Hampton Press. Retrieved on July 16, 2003 from <http://www.emoderators.com/moderators/rohfeld.html>.
- Salmon, G. *E-moderating: The key to teaching and learning online*, London: Kogan Page, 2000.
- Vygotsky, L.S. (1978). *Mind in Society*. Cambridge, MA: Harvard University Press.
- Wertsch, J.V. (1985). *Vygotsky and the Social Formation of Mind*. Massachusetts: Harvard University Press.
- Winograd, D. (2000). *Guidelines for moderating online educational computer conferences*. Retrieved July 8, 2003 from: <http://www.emoderators.com/moderators/winograd.html>
- Wiittgensein, L. (1958). *Philosophical investigations* ( 3rd ed.). New York: Macmillan.
- Xin, M, (2002) *Validity centered design for the domain of engaged collaborative discourse in computer conferencing*, Brigham Yong Univeristy. Unpublished doctoral dissertation.
- Zhang, K (2004). *Effects of peer-controlled or externally structured and moderated online collaboration on group problem solving processes and related individual attitudes in well-structured and ill-structured small group problem solving in a hybrid course*. Pennsylvania State University. Unpublished Doctoral dissertation.
- Zhang, K. & Ge, X. (2003). The dynamics of online collaborative learning: Team task, group development, peer relationship, and communication media, in A.D. de Figueiredo, & A. A. Fonso, (eds). *Managing learning in virtual settings: the role of context*. Idea Group.

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**Editor's Note:** Traditional pedagogy is being challenged by information age technologies. Opportunities for students to use the internet to acquire, share, and collaboratively develop "learner generated content" shift the locus of control from "teacher as expert" to "guide and collaborator" in the learning process. This paper encapsulates major issues for academe to resolve that result from societal and technological changes.

## Teaching and Learning in the Web 2.0 Era: Empowering Students through Learner-Generated Content

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Australia

### Abstract

This article describes how the emergence of "Web 2.0" technologies and social software tools is creating a new set of dynamics leading to increased user-led content and knowledge production that is transforming higher education curriculum and instruction. It considers the different ways in which social computing applications can be used for teaching and learning, and suggests changes to pedagogy based on greater learner control, agency, and engagement in content creation, as well as peer-to-peer sharing and review of ideas. It presents exemplars and cases of learner-generated content from universities around the world, and discusses themes of pedagogical transformation that emerge from analysis of these cases. It also discusses challenges facing the production and adoption of learner-generated content in higher education, and suggests possible ways forward to meet these challenges.

**Keywords:** Web 2.0, social software, user-generated content, student-centered learning, peer-to-peer learning, knowledge creation metaphor of learning, higher education, blogs, wikis, social networking, learning community, pedagogy

### Introduction

In higher education, traditional approaches to teaching and learning are typically based on pre-packaged learning materials, fixed deadlines, and assessment tasks designed and stipulated by teachers. With the advent of and growth in popularity of "Web 2.0" (O'Reilly, 2005) services and tools, the increased prevalence of user-generated content (UGC) has implications for learning environments in higher education, and is already influencing pedagogical choices and approaches (Williams & Jacobs, 2004). The new affordances of Web 2.0 are now making learner-centered education a reality, with tools like web logs (blogs), wikis, media sharing applications, and social networking sites capable of supporting multiple communities of learning. These tools enable and encourage informal conversation, dialogue, collaborative content generation, and the sharing of information, giving learners access to a vast array of ideas and representations of knowledge. As a result, the one-way flow of information between teacher (as expert) and student (as novice) is now being challenged.

In what is seen as a user-driven revolution, there is a shift away from the production of Web content by traditional, "authoritative" sources, towards content that is generated by the users themselves. In academia, the users are students and they now have the tools, spaces, and skills to contribute ideas and publish their views, research, and interpretations online. UGC can come from myriad sources, and is a result of the ease with which social software can be used to create, share, augment, tag, and upload content. In this article, the authors take the view that the UGC movement is reshaping the debate over both *what* we teach and *how* we teach it.

## How is Teaching and Learning Changing?

Though learning management systems (LMS's) that integrate geographically dispersed learners in asynchronous interactions have been widely available for a number of years, many higher education institutions are discovering that new models of teaching and learning are required to meet the needs of a generation of learners who seek greater autonomy, connectivity, and socio-experiential learning. The rigidity of many LMS's and learning tasks dominated by instructor-generated learning objects have for a long time cast students as consumers of information (cf. Downes, 2005, 2007; Dalsgaard, 2006).

The reality is that today's student "audience" is very much in control of the content found online; students are no longer passive consumers of knowledge but also producers, or "prosumers," indicating a more active approach to learning (Klamma, Cao, & Spaniol, 2007). The Pew Internet & American Life Project (Lenhart & Madden, 2005) reports that approximately 50% of all teens in the United States, which equates to 12 million youth, not only participate in online activities but also create their own online content through blogs, personal Web pages, and remixing. Students, as members of the open culture of Web 2.0, are finding new ways to contribute, communicate, and collaborate, using a variety of accessible and easy-to-use tools that empower them to develop and share ideas. The most popular and fastest growing Web sites on the Internet (e.g. *YouTube* and *MySpace*) are all making use of this generativity, which is redefining how we think about creativity and provokes us to consider how new modes of community-based sharing and content creation might be applied to the more formal spaces of learning in colleges and universities.

### The Shift in Power: How Social Software Tools Empower the User

As a result of the changing profile of the university and college student (Windham, 2006), we are witnessing a blurring of the distinctions between learning, work, and play. New models for teaching and learning may be needed to replace traditional, "closed classroom" models that place emphasis on the institution and instructor. Many popular LMS's commonly used by educational institutions to support online learning replicate these models, conforming to a classroom or lecture hall metaphor in their design, thereby further reinforcing instructor-centered approaches to teaching, learning, and content production. As such, many authors and commentators are suggesting that they may be outdated in the Web 2.0 era (Cross, 2006; Karrer, 2006). The inventor of the Web, Tim Berners-Lee (2000) foreshadowed a more active suite of tools that were not simply about passive downloading and consumption of information when he stated, "I have always imagined the information space as something to which everyone has immediate and intuitive access, and not just to browse, but to create" (p. 169). Now, social software tools that make it easy to contribute ideas and content, place the power of media creation and distribution into the hands of "the people formerly known as the audience" (Rosen, 2006), and that includes our students.

A few examples will illustrate the new forms of participation enabled by social software tools. Youth are now engaged in creative authorship by being able to produce and manipulate digital images and video clips, tag them with chosen keywords, and make this content available to their friends and peers worldwide through *Flickr*, *MySpace*, and *YouTube*. Other individuals write blogs and create wiki spaces where like-minded individuals comment on, share and augment these sources, thereby creating a new genre of dynamic, self-published content. This outpouring of information and digital user-generated content between peers has been dubbed "personal publishing" (Downes, 2004). As to why people engage in such creation and production, the answer may lie in the ease of use and the urge to connect and share, or according to Wu (2005, cited in Anderson, 2006), "it has much to do with the desire of individuals to be noticed and gain exposure:"... the 'exposure culture' reflects the philosophy of the Web, in which getting noticed is everything" (p. 74).

This stands in stark contrast to the control culture of education, where pre-packaged content and teacher-designed syllabi dominate, thereby denying students choice and autonomy in shaping their own learning trajectories. According to Dron (2006), such approaches lead to de-motivation, boredom, and confusion. The challenge for educators is to enable self-direction, knowledge building, and learner control by providing options and choice while still supplying the necessary structure and scaffolding. A growing number of teachers have begun to witness firsthand how social software tools offer rich possibilities for students to create and share ideas, and the take on roles as content creators. However, in advocating that students play an active part as contributors of content, the issue of what role content should play in higher education teaching and learning needs to be addressed.

### The Role Of Content in Higher Education Teaching and Learning

Boettcher (2006) suggests that there is a need to carefully re-evaluate the role of content in courses, and differentiates between three major types of content (Table 1).

**Table 1**  
**Categories of Content in Courses**

<i>Pre-packaged authoritative content</i>	Represents vetted scholarship, developed primarily with the discipline and content perspective in mind, as opposed to catering for the individual learner or context. It may include textbooks and other readings, problems, tests, and quizzes assessing core concepts and principles, presented in either hard copy (printed) or electronic (CD-ROM, Web site, audio book) format.
<i>Guided learning materials</i>	Materials produced specifically for a course and/or cohort of students by a faculty member prior to and during a course, and may include things such as the syllabus, projects, assignments, discussion reviews, assignment feedback/post-mortems, and responses to students' questions.
<i>Student performance content</i>	Content that is dynamically and spontaneously generated by students in the process of learning, including completed project/assignment work or deliverables (i.e. end products) as well as evidence of the process of learning, such as successive drafts of solutions, descriptions of mistakes made, or difficulties encountered. This category may also include: <ul style="list-style-type: none"> <li>• synchronous and asynchronous computer-mediated communication (CMC) discourse (e.g. chat logs, discussion board postings);</li> <li>• reflective writing in the form of learning journals/diaries, summaries, and reviews, created by students working individually or in teams;</li> <li>• "found" content, including the results of students' own wide reading of Web sites, journals, magazines, and news articles that they bring to and share with one another in the learning environment.</li> </ul>

The third category in Table 1 is beginning to receive increased emphasis, amid a higher education climate in which the value of textbooks is being questioned (Moore, 2003; Fink, 2005), and in which the open source and open content movements (Beshears, 2005; Massachusetts Institute of Technology, 2007; MERLOT, 2007) are gaining attention and traction. Clark (2003) also points towards the "Napsterization" of e-learning through peer-to-peer (P2P) file and media content sharing services. Today's younger students perceive little value in the rote learning of factual information, given the accessibility and ease of use of search engines and Web-based reference

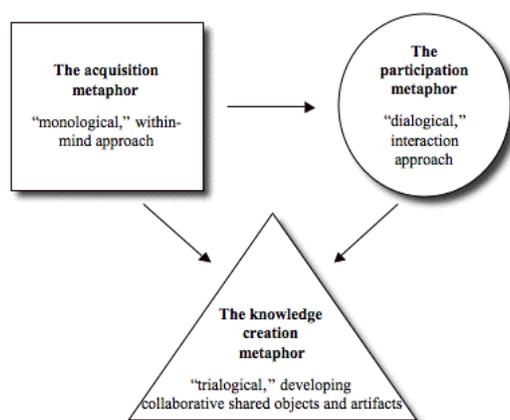
Sener (2007a) suggests that a move towards learner-generated content has the potential to change education for the better – for example by increasing student engagement, developing critical sites such as *Google* and *Wikipedia*. Instead, the real educational value lies in the facilitation of a

learning experience in which the students are empowered to create their own content, thinking skills, and fostering a sense of community, while also resulting in products of lasting value to students individually, to peers, as well as to the wider community and society as a whole. The primary purpose of learner-generated content is to stimulate lasting, more permanent knowledge growth within learners through sharing and molding their unique knowledge structures, as well as through their active involvement in one another's learning trajectories. There is also potential for some learner-generated content to be stored for later re-use. For example, Mayes and Dineen (1999) and Hartmann (1999) advocate the use of "tertiary courseware" in the form of educational dialogue such as questions, answers, and discussions (as opposed to primary courseware, which is courseware intended to present subject matter to students; or secondary courseware, which comprises the environments, tools, and materials used to facilitate the performance of learning tasks by students). While the application of tertiary courseware may support learning by supplying learners with feedback for conceptualizations and exposing them to other people's understanding through vicarious participation (McKendree, Stenning, Mayes, Lee, & Cox, 1998) in the dialogue, Boettcher (2006) maintains that the key focus of learner-generated content is on the *process* of content creation and knowledge construction, as opposed to the end *product* itself. Supplied content is only one of many resources available to assist students in developing knowledge and skills, and has limitations, particularly if it pre-empts learner discovery and research, and active student involvement in the knowledge creation process.

### Three Metaphors of Learning

Learning with social software tools compels us to reconsider how new tools and the interconnectedness offered by Web 2.0 impact on pedagogy, and opens up the debate on how we conceptualize the dynamics of student learning. Sfard (1998) distinguishes between two metaphors of learning, the *acquisition metaphor* and the *participation metaphor*. The former represents a receptive view according to which learning is mainly a process of acquiring chunks of information, typically delivered by a teacher. An alternative model, according to Sfard, is the participation metaphor, which perceives learning as a process of participating in various cultural practices and shared learning activities. The focus is on the process, that is, on learning to learn, and not so much on the outcomes or products. According to this view, knowledge does not exist in individual minds but is an aspect of participation in cultural practices (Brown, Collins, & Duguid, 1989). Both individuals and their environments contribute to the processes of cognition, and learning is embedded in multiple networks of distributed individuals engaging in activities. By adopting a participation metaphor, learners engage in social processes of knowledge construction such as "enculturation," "guided participation," or "legitimate peripheral participation," all of which are grounded in socio-cultural theory (Lave & Wenger, 1991; Vygotsky, 1978).

However, learners are also capable of creating and generating ideas, concepts, and knowledge, and it is arguable that the ultimate goal of learning is to enable this form of creativity. Current views of knowledge regard the notion of an instructor-dominated classroom and curriculum as obsolete, and embrace learning environments where students take control of their own learning, make connections with peers, and produce new insights and ideas through inquiry. Thus, to keep pace with the content creation processes enabled by Web 2.0 and social software tools, it appears to be necessary to go beyond the acquisition and participation dichotomy. Paavola and Hakkarainen (2005) propose the *knowledge creation metaphor of learning* (Figure 1), which builds on common elements of Bereiter's (2002) theory of knowledge building, Engeström's (1987, 1999) theory of expansive learning, and Nonaka and Takeuchi's (1995) model of knowledge creation.



**Figure 1. Three metaphors of learning**  
(Paavola and Hakkarainen, 2005 – Reproduced with permission)

From the perspective of the knowledge creation metaphor, learning means becoming part of a community, through creation and contribution of learning resources. Students are both producers and consumers (“prosumers”), of knowledge, ideas, and artifacts. As newcomers to a community of practice, they not only engage in “legitimate peripheral participation” (Lave & Wenger, 1991) to develop their own mastery of knowledge and skills through interaction with experts such as their instructors, but also have a responsibility to play a part in the continued advancement of the community’s existing body of knowledge, as they move toward full participation in the socio-cultural practices of this community (Lee, Eustace, Hay, & Fellows, 2005). In a knowledge building community, members are managers, or “curators” of the community’s knowledge artifacts (Eustace & Hay, 2000), intent on making responsible decisions in addition to generating novel and innovative contributions to benefit the community as a whole. The knowledge building paradigm is therefore well suited to social learning environments where digital affordances and tools enable students to engage in rich and creative experiences, where they move beyond participation in communities of learning, to active creators of ideas, resources, and knowledge, as is evident in the processes underpinning learner content creation.

### Exemplars of Learner Content Creation in Higher Education

A number of academics have risen to the challenge of adopting learner-generated content and integrating it into their pedagogy. The following are examples drawn from a range of teaching and learning contexts across a variety of academic disciplines:

- At the University of North Carolina at Pembroke (UNCP), Dr. Kenneth Mentor’s courses make use of a wiki maintained by students, with the goal being to create encyclopedia entries on a variety of subjects related to law, criminal justice, sociology, and criminology. In previous courses, Mentor’s students created Web pages as class assignments. The *Online Encyclopedia of Criminal Justice* (2006) project extends those efforts in two notably powerful ways: using a wiki enables learner-generated content to be readily shared in virtual “public spaces” and to a broader audience beyond the walls of the classroom, and the wiki’s ease of use enables students to create substantial amounts of content within a short timeframe. In addition to generating and entering initial content, students also perform the roles of editing, revising, and organizing the content, which becomes part of the shared pools of resources accessible to all learners. Although all site content was initially written by UNCP students, the site is now available for educators to use for class assignments. Users outside the institution are allowed to register and contribute (Sener, 2007c);

- In the English as a Foreign Language (EFL) domain, Professor Steve McCarty of Osaka Jogakuin College asserts that "... content creation also makes [students] part of the target language community, not just passive recipients or spectators of a foreign culture, which benefits their motivation and development of a bilingual identity" (McCarty cited in Sener, 2007b, sec. 2, para. 1). While teaching an intensive course on translation at Matsuyama Shinonome College, McCarty (2005a) invited two Chinese and two Japanese students to engage in a discussion that was recorded as a podcast. The students were asked to each explain five given proverbs, in English as well as in their native language, as part of an attempt to explore if there was a similar way of thinking in the three cultures. The proverbs were: (1) Actions speak louder than words; (2) Advice when most needed is least heeded; (3) Look before you leap; (4) Penny wise, pound foolish; and (5) Ignorance is bliss. McCarty also maintains his own publicly accessible, bilingual podcast feed and blog, *Japancasting* (McCarty, 2006), targeted at those studying either Japanese or English as a foreign language. The podcast episodes cover Japanese culture, history, folklore, and comparative religions, as well as contemporary social issues such as the education system and the rights of minorities (e.g. foreigners) in Japan. In many of the podcasts, students from Osaka Jogakuin College serve as voice actors or interviewees, and in some cases present their own creative work/scripts. Although they remain anonymous, the students are excited and motivated by the prospect of broadcasting to a worldwide, Internet audience (McCarty, 2005b; Sener, 2007b);
- Students studying German and Spanish courses in distance education mode with the Open University in the United Kingdom use digital voice recorders and mini-camcorders to record interviews with other students and with native speakers, as well as to create audio-visual tours for sharing with their peers (Kukulka-Hulme, 2005);
- In a literature class on U.S. fiction led by Peter Schmidt at Swathmore College, students were assigned the task of creating a "podcast pair" consisting of a five-minute reading of a chosen passage from a novel, coupled with a five-minute discussion of the passage and its relationship to other material. All students in the class were required to download and listen to selected podcasts by their classmates on what they were reading, prior to attending face-to-face class discussions (Evans, 2006);
- Wenzloff (2005) uses the social bookmarking site *Furl* in teacher training. He uses the export feature of Furl to quickly and easily generate online or paper handouts of the resources he has bookmarked for the class. In addition, the pre-service teachers he works with use their own Furl accounts to tag, annotate, and share the resources they have found with their peers. Wenzloff subscribes to the RSS feeds of the student teachers' Furl sites, to examine what Web sites they have been reading as well as the comments they have written about these sites (Richardson, 2006);
- To support his course in General Psychology at the University of Connecticut, Miller (2006, 2007) hosts weekly informal discussions with students following each week's lectures. During these discussions, students are able to seek clarification on the course material, talk about it in greater depth, and discuss issues not covered during the lecture. The discussions are recorded and made available to other members of the class as a series of podcasts. In this way, the podcasts are *about* course content (meta-cognitive) rather than simply being recordings of the course content itself (transmission of content). The process of creating and participating in the discussions is an instance of learner-generated content creation. All students in the cohort are welcome to submit questions in advance of the discussion via email; these answers, as well as those asked by students who attend in person, are answered during the discussion. The dialogue can be captured, used, archived, and re-used as a form of "tertiary courseware" (Hartmann, 1999);

- In a project at Charles Sturt University, a group of second year undergraduate students produced short, three to five-minute talkback radio-style podcasts for pre-class listening by first year students enrolled in a subject that the second year students had successfully completed in an earlier semester (Lee, Chan, & McLoughlin, 2006). The brainstorming of script ideas, as well as the scriptwriting, editing, and recording of the podcasts, was driven by the student producers, with minimal teacher intervention in the process. The task outcomes were to develop a range of technical competencies, to foster generic attributes such as teamwork and presentation skills, as well as to enable students to express and conceptualize their understanding of previously learned subject matter. By engaging in collaborative peer review and critique of podcast scripts, students extended and adapted content for distribution to an audience of peers;
- At Bentley College, USA, Information Technology (IT) students enrolled in Mark Frydenberg's (2006) *IT Intensive* course purchase Pocket PCs instead of textbooks, which they use to explore technology concepts in a hands-on, learner-centered approach. Participants form pairs or groups and work together to plan and produce vodcasts. Each group produces a vodcast on one of the topics in the course schedule, for sharing with the rest of the class. This may be viewed as a novel form of peer and reciprocal teaching, and serves a dual purpose: In the process, students not only display their understanding of the course topics through the production of content for their peers, but also develop and exercise IT skills that are directly linked to the objectives of the course;
- Undergraduate students studying first year (freshman) level introductory IT subjects at Charles Sturt University and Bentley College have been working in teams consisting of a mixture of students from each institution. Each team is given the task of collaboratively producing a short podcast, to be recorded over Skype (i.e. a "Skypecast"), in which team members discuss issues/topics on technology and culture that are common to the curricula at both institutions. The students must overcome issues related to cross-cultural communication, as well as challenges that arise from working with team members whom they are unable to meet face-to-face, across disparate time zones, to produce the joint artifacts (Chan, Frydenberg, & Lee, 2007).

These examples provide evidence that social software can extend the range of experiences available to students, and enable them to engage with multiple digital tools and overlapping knowledge sources. They also herald changes in how we conceptualize practices of learning and creativity, demonstrating a move away from solitary achievement to collaboration within multiple communities of practice in an "always on" cultural space. Clearly we are operating in an information environment where students have access to vast amounts of data, and where they can reuse and remix information in a spirit of open collaboration. It is also evident that in the cases cited, where students create and share content and ideas using a range of social software tools, that a new form of pedagogy is emerging that is recasting traditional roles by enabling greater learner autonomy, self-direction, and risk-taking. While there is little formal evaluative data available of actual learning outcomes, it is clear that these new practices allow and support key educative functions for learners as follows:

1. To produce, edit, and publish ideas to a wider audience of peers, and to subsequently rework published ideas on the basis of critique and feedback obtained, and/or to allow the ideas to grow, change, and evolve at the hands of the community (Sener, 2007c; Lee, Chan, & McLoughlin, 2006);
2. To demonstrate communicative competencies such as create scripts and record podcasts on a range of cross-cultural themes and concepts, sometimes in a foreign language (McCarty, 2005a, 2005b; Kukulska-Hulme, 2005; Chan, Frydenberg, & Lee, 2007);

3. To participate and collaborate in formal and informal learning networks beyond classroom walls, thereby soliciting multiple perspectives and going beyond the limitations of their own viewpoints (Chan, Frydenberg, & Lee, 2007; Kukulska-Hulme, 2005; Wenzloff, 2005);
4. To personalize learning events, following through on individual interests while taking into account multiple sources of information to achieve a balanced and critical view of knowledge generated (Evans, 2006; Miller, 2006, 2007; Frydenberg, 2006; Lee, Chan, & McLoughlin, 2006; Wenzloff, 2005);
5. To demonstrate essential generic skills such as communication, digital literacy, and presentation skills, as well as to construct and consolidate knowledge through creating multimedia learning objects for peers (Lee, Chan, & McLoughlin, 2006; Kukulska-Hulme, 2005; Evans, 2006; Frydenberg, 2006).

## Challenges and Possible Responses

While social software tools and learner-generated content offer fruitful prospects for empowering learners in line with the knowledge creation metaphor of learning, heutagogical approaches (Hase & Kenyon, 2000) to education such as those advocated in the present article will likely be met with considerable resistance and opposition from education practitioners and researchers. For example, as the expression goes, this is the era of “mix, rip, and burn, and there is concern that “students want to be able to take content from other people. They want to mix it, in new creative ways—to produce it, to publish it, and to distribute it” (Hilton, 2006). Such practices raise questions about the importance of originality from the point of view of academic integrity, and give rise to concerns about copyright, ownership, and intellectual property within the context of both student learning and assessment through learner-generated content. Moreover, in adopting learner-generated content for consumption by other students, there is a concern about the validity and reliability of the content that is produced.

In response to these challenges, the authors believe that change is unavoidable and inevitable. Learning designs that hail the instructor and textbook as the sole authoritative, expert sources of information are incongruent with the rapidly changing social and technological landscape enabled by Web 2.0 and the open content movement. Today, we are witnessing a proliferation of personal publishing media and spaces using a range of free, Web-based services and open source software tools, along with the apparent random and open production and delivery of content. As content is increasingly mashed-up, blogged, and syndicated in numerous different locations, individuals have instant access to ever-expanding volumes of information, and are constantly bombarded by rafts of diverse and often conflicting ideas and representations. Information users are faced with the challenge of judging the quality of sources they come across, and discerning their suitability or otherwise for a variety of purposes. Beyond simple “search and retrieval,” the information must be contextualized, analyzed, visualized, and synthesized (Lorenzo & Dziuban, 2006; Windham, 2006).

Recent research has shown that many higher education students currently lack the competencies necessary to navigate and use the overabundance of information available, including the skills required to locate high quality sources and assess them for objectivity, reliability, and currency (Katz & Macklin, 2007). To continue to “shelter” them from these challenges within a “closed classroom” academic environment would be to do them an injustice, as it would in effect be denying them valuable opportunities to develop the competencies they need to meet the demands and challenges of the twenty-first century workforce, and of life and lifelong learning in modern society at large. Students need to develop sound information literacy skills in effectively finding, evaluating, and creating information, which often involves complex critical thinking skills

(Lorenzo & Dziuban, 2006; Windham, 2006). Many of the examples presented earlier in the present article demonstrate that the appropriate use of learner-generated content can also serve as levers for critical thinking and meta-cognitive development (e.g. Sener, 2007c; McLoughlin, Lee, & Chan 2006).

In many educational scenarios and cases it may transpire that there is still a need for gatekeepers and other quality assurance/control mechanisms; however, the authors believe that the review, editing, and quality assurance of content can be done collaboratively and in partnership with learners, while also drawing on input from the wider community outside the classroom or institution (the notion of “wisdom of crowds” [Surowiecki, 2004]). For many teachers and administrators the major obstacle to embracing learner-generated content will be accepting the need to relinquish some degree of control, which they may be apprehensive to do since this is a major departure from the manner in which their jobs have traditionally been done and are expected to be done. Traditional views of instruction and curriculum design emphasize didactic and transmission-oriented methods whereby it is the teacher’s responsibility, as the expert, to impart knowledge to students. The case studies presented in this article suggest that not only will decisions have to be made in partnership with learners, but in addition, other stakeholders and communities must be actively involved in the process as well.

## Conclusions

Web 2.0 tools such as blogs, wikis, RSS, podcasting, social networking, tag-based folksonomies, and peer-to-peer (P2P) media sharing enable connectivity and make it easier for students to connect with and learn from one another. “Learner-generated content” is a reminder that with the help of such supporting tools, appropriate activities empower participants and allow them to exercise their creativity, enabling collaboration and the production of shared artifacts. A major outcome of learner-generated content is the “collective intelligence” or the “wisdom of the crowds” (Surowiecki, 2004) that emerges from working cooperatively, sharing ideas, and engaging in consensus decision-making with other learners/users in groups and communities that transcend the boundaries of the classroom or institution.

Most of the user interaction in “Web 1.0,” characterized by technologies such as chat rooms, bulletin boards, and email, was centered around dialogue or conversation, which mirrors the participation metaphor of learning. With Web 2.0, the contributions of the community play a pivotal role, and many Web sites exist solely as vehicles for supporting those contributions. At the heart of the experience is actively generating and/or sharing data (files, music, photographs, video, interesting Web sites), often in a “remixed” or “mashed-up” fashion, corresponding to a merging of participation and creation.

The previous section discussed some of the challenges associated with teaching and learning strategies based around learner-generated content. At a broader level, learner-generated content brings into question the role of, and even threatens the authority held by, universities and colleges as providers of credentialed learning:

... in higher education, the usage of Web 2.0 technologies has the capacity to accelerate the pace of advancement in knowledge building and sharing but with unforeseeable consequences and outcomes. In such an environment the academic is not in control, universities are not as able to restrict the learning to those enrolled, and rights to collaboratively determined knowledge are uncertain. Web 2.0 heralds a new age of uncertainty ... (Nagy & Bigum, 2007, p. 82)

These changes are inevitable and unavoidable, given the morphing nature of higher education, including the fusing and merging of formal and informal learning and the rise of the millennial learner, within the context of even broader and more profound societal and technological

changes. The main difficulty is a practical one: How do educators break down institutional containment fields while still retaining the coherence and credibility demanded of an educational institution? As the examples in this article show, the design of learning and assessment tasks must be a shared process between educators, students, and stakeholders who may be external to the academic environment. There must be a real delegation of academic ownership and judgment beyond classroom walls.

In conclusion, the authors believe that educational technologies – including those that are part of Web 2.0 and beyond, are best used to supply support and scaffolding for learning and reflection within the authentic, real world contexts in which knowledge construction naturally occurs. A range of learner-centered pedagogies should afford students a true sense of agency, control, and ownership of the learning experience, and the capacity to create and disseminate ideas and knowledge. To deliver such an entitlement, we need to leverage the available technologies to extend and transform current practices, while keeping learners and the social dimensions of learning at the forefront.

## References

- Anderson, C. (2006). *The long tail: How endless choice is creating unlimited demand*. London, England: Random House.
- Bereiter, C. (2002). *Education and mind in the knowledge age*. Hillsdale, NJ: Erlbaum.
- Beshears, F. M. (2005). Viewpoint: The economic case for creative commons textbooks. *Campus Technology*, October 4. Retrieved May 10, 2007, from <http://campustechnology.com/articles/40535/>
- Boettcher, J. V. (2006). The rise of student performance content. *Campus Technology*, February 28. Retrieved February 11, 2007, from <http://www.campustechnology.com/article.aspx?aid=40747>
- Berners-Lee, T. (2000). *Weaving the Web*. New York, NY: HarperCollins.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32-42.
- Chan, A., Frydenberg, M., & Lee, M. J. W. (2007). Facilitating cross-cultural learning through collaborative Skypecasting. In *Proceedings of the ACM Special Interest Group for Information Technology Education (SIGITE) Conference* (pp. 59-66). New York, NY: Association for Computing Machinery.
- Clark, D. (2003). *The Napsterisation of learning (P2P)*. Brighton, England: Epic Group.
- Cross, J. (2006). LMS, we hardly knew ye. *Informal Learning Blog*. Retrieved November 11, 2007, from <http://informl.com/2006/09/04/lms-we-hardly-knew-ye/>
- Dalgaard, C. (2006). Social software: E-learning beyond learning management systems. *European Journal of Open, Distance and E-Learning*, 9(2). Retrieved January 7, 2007, from [http://www.eurodl.org/materials/contrib/2006/Christian\\_Dalgaard.htm](http://www.eurodl.org/materials/contrib/2006/Christian_Dalgaard.htm).
- Downes, S. (2004). Educational Blogging. *EDUCAUSE Review*, 39(5), 14-26. Retrieved November 2, 2005, from <http://www.educause.edu/ir/library/pdf/erm0450.pdf>
- Downes, S. (2005). E-learning 2.0. *ELearn*, October. Retrieved January 11, 2006, from <http://www.elearnmag.org/subpage.cfm?section=articles&article=29-1>.

- Downes, S. (2007). Places to go: Facebook. *Innovate: Journal of Online Education*, 4(1). Retrieved November 17, 2007, from <http://innovateonline.info/print.php?view=pdf&id=517>
- Dron, J. (2006). Social software and the emergence of control. In *Proceedings of the Sixth International Conference on Advanced Learning Technologies* (pp. 904-908). New York, NY: Association for Computing Machinery.
- Eustace, K., & Hay, L. (2000). A community and knowledge building model in computer education. In A. E. Ellis (Ed.), *Proceedings of the Australasian Conference on Computing Education* (pp. 95-102). New York, NY: Association for Computing Machinery.
- Engeström, Y. (1987). *Learning by expanding: An activity-theoretical approach to developmental research*. Helsinki: Orienta-Konsultit Oy. Retrieved November 10, 2006, from <http://lhc.ucsd.edu/MCA/Paper/Engestrom/expanding/toc.htm>
- Engeström, Y. (1999). Innovative learning in work teams: Analyzing cycles of knowledge creation in practice. In Y. Engeström, R. Miettinen, & R.-L. Punamäki (Eds.), *Perspectives on Activity Theory* (pp. 377-404). Cambridge, England: Cambridge University Press.
- Evans, L. (2006). Using student podcasts in literature classes. Retrieved January 23, 2007, from <http://www.academiccommons.org/ctfl/vignette/using-student-podcasts-in-literature-classes>
- Fink, L. (2005). Making textbooks worthwhile. *Chronicle of Higher Education*, September 16. Retrieved March 10, 2007, from <http://chronicle.com/weekly/v52/i04/04b01201.htm>
- Frydenberg, M. (2006). Principles and pedagogy: The two P's of Podcasting in the Information Technology classroom. In D. Colton, W.J. Tastle, M. Hensel, & A.A. Abdullat (Eds.), *Proceedings of ISECON 2006* (§3354). Chicago, IL: Association of Information Technology Professionals. Retrieved November 27, 2006, from <http://isedj.org/isecon/2006/3354/ISECON.2006.Frydenberg.pdf>
- Hartmann, K. (1999). Making use of tertiary courseware. Paper presented at CSCL '99, Palo Alto, CA, December 11-12. Retrieved March 10, 2007, from <http://d3e.open.ac.uk/cscl99/Hartmann/>
- Hase, S., & Kenyon, C. (2000). From Andragogy to Heutagogy. *ultiBASE*, 5(3). Retrieved September 25, 2007, from <http://ultibase.rmit.edu.au/Articles/dec00/hase1.pdf>
- Hilton, J. (2006). The future for higher education: Sunrise or perfect storm. *EDUCAUSE Review*, 41(2), 58-71. Retrieved January 3, 2007, from <http://www.educause.edu/ir/library/pdf/erm0623.pdf>
- Karrer, T. (2006). Goodbye LMS? eLearning Technology. Retrieved November 11, 2007, from <http://elearningtech.blogspot.com/2006/09/goodbye-lms.html>
- Katz, I. R., & Macklin, A. S. (2007). Information and communication technology (ICT) literacy: Integration and assessment in higher education. *Systemics, Cybernetics and Informatics*, 5 (4), 50-55. Retrieved November 17, 2007, from [http://www.iiisci.org/Journal/CV\\$/sci/pdfs/P890541.pdf](http://www.iiisci.org/Journal/CV$/sci/pdfs/P890541.pdf)
- Klamma, R., Cao, Y., & Spaniol, M. (2007). Watching the Blogosphere: Knowledge sharing in Web 2.0. Paper presented at the International Conference on Weblogs and Social Media, Boulder, CO, March 26-28. Retrieved October 11, 2007, from <http://www.icwsm.org/papers/2--Klamma-Cao-Spaniol.pdf>

- Kukulska-Hulme, A. (2005). The mobile language learner – now and in the future. Paper presented at Fran Vision till Praktik (Language Learning and ICT Symposium), Umea, Sweden, May 11-12. Retrieved February 3, 2006, from <http://www2.humlab.umu.se/video/Praktikvision/agnes.ram>
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, England: Cambridge University Press.
- Lee, M. J. W., Chan, A., & McLoughlin, C. (2006). Students as producers: Second year students' experiences as podcasters of content for first year undergraduates. In *Proceedings of the 7th Conference on Information Technology Based Higher Education and Training* (pp. 832-848), Sydney, NSW: University of Technology.
- Lee, M.J.W., Eustace, K., Hay, L. & Fellows, G. (2005). Learning to collaborate, collaboratively: An online community building and knowledge construction approach to teaching computer supported collaborative work at an Australian university. In M.R. Simonson & M. Crawford (Eds.), *Proceedings of the 2005 Association for Educational Communications and Technology (AECT) International Convention* (pp. 286-306). North Miami Beach, FL: Nova Southeastern University.
- Lenhart, A., & Madden, M. (2005). *Teen content creators and consumers*. Washington, DC: Pew Internet & American Life Project. Retrieved October 2, 2007, from [http://www.pewinternet.org/pdfs/PIP\\_Teens\\_Content\\_Creation.pdf](http://www.pewinternet.org/pdfs/PIP_Teens_Content_Creation.pdf)
- Lorenzo, G., & Dziuban, C. (2006). *Ensuring the net generation is net savvy*. Washington, D.C.: EDUCUASE. Retrieved July 10, 2007, from <http://www.educause.edu/ir/library/pdf/ELI3006.pdf>
- Massachusetts Institute of Technology. (2007). MIT OpenCourseWare. Retrieved July 4, 2007, from <http://ocw.mit.edu/>
- Mayes, T., & Dineen, F. (1999). Developing tertiary courseware through capturing Task Directed Discussions. In B. Collis & R. Oliver (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications* (pp. 1061-1066). Chesapeake, VA: AACE.
- McCarty, S. (2005a). Similar proverbs in Chinese, Japanese and English? Japancasting. Retrieved March 10, 2007, from <http://stevevc.blogmatrix.com/:entry:stevevc-2005-09-01-0000/>
- McCarty, S. (2005b). Spoken Internet to Go: Popularization through podcasting. *The JALT CALL Journal*, 1(2), 67-74. Retrieved July 7, 2006, from [http://jaltcall.org/journal/articles/1\\_2\\_McCarty.pdf](http://jaltcall.org/journal/articles/1_2_McCarty.pdf)
- McCarty, S. (2006). Japancasting. Retrieved December 3, 2006, from <http://stevevc.blogmatrix.com>
- MERLOT. (2007). Retrieved February 11, 2007, from <http://www.merlot.org>
- Miller, D. B. (2006). Podcasting at the University of Connecticut: Enhancing the educational experience. *Campus Technology*, October 18. Retrieved January 20, 2007, from [http://campustechnology.com/news\\_article.asp?id=19424&typeid=156](http://campustechnology.com/news_article.asp?id=19424&typeid=156)
- Miller, D. B. (2007). iCube. Retrieved April 10, 2007, from <http://icube.uconn.edu/>
- McKendree, J., Stenning, K., Mayes, T., Lee, J., & Cox, R. (1998). Why observing a dialogue may benefit learning. *Journal of Computer Assisted Learning*, 14(2), 110-119.
- Moore, J. W. (2003). Are textbooks dispensable? *Journal of Chemical Education*, 80(4), 359.

- Nagy, J. & Bigum, C. (2007). Bounded and unbounded knowledge: Teaching and learning in a Web 2 world. *Turkish Online Journal of Distance Education*, 8(3), 76-86. Retrieved October 2, 2007, from [http://tojde.anadolu.edu.tr/tojde27/pdf/article\\_5.pdf](http://tojde.anadolu.edu.tr/tojde27/pdf/article_5.pdf)
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. New York, NY: Oxford University Press.
- Online Encyclopedia of Criminal Justice. (2006). Retrieved October 2, 2007, from <http://cjencyclopedia.com>.
- O'Reilly, T. (2005). What is Web 2.0: Design patterns and business models for the next generation of software. Retrieved December 15, 2006, from <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>
- Paavola, S. & Hakkarainen, K. (2005). The knowledge creation metaphor – An emergent epistemological approach to learning. *Science and Education*, 14(6), 535-557.
- Richardson, W. (2006). *Blogs, wikis, podcasts, and other powerful tools for classrooms*. Thousand Oaks, CA: Sage.
- Rosen, J. (2006). *The people formerly known as the audience*. PressThink. Retrieved October 10, 2007, from [http://journalism.nyu.edu/pubzone/weblogs/pressthink/2006/06/27/ppl\\_frmr.html](http://journalism.nyu.edu/pubzone/weblogs/pressthink/2006/06/27/ppl_frmr.html)
- Sener, J. (2007a). Category:Student-Generated Content. Retrieved March 10, 2007, from [http://www.sloan-c-wiki.org/wiki/index.php?title=Category:Student-Generated\\_Content](http://www.sloan-c-wiki.org/wiki/index.php?title=Category:Student-Generated_Content)
- Sener, J. (2007b). Podcasting student performances to develop EFL skills. Retrieved March 10, 2007, from [http://www.sloan-c-wiki.org/wiki/index.php?title=Podcasting\\_Student\\_Performances\\_to\\_Develop\\_EFL\\_Skills](http://www.sloan-c-wiki.org/wiki/index.php?title=Podcasting_Student_Performances_to_Develop_EFL_Skills)
- Sener, J. (2007c). University of North Carolina at Pembroke – cjencyclopedia.com: Online Encyclopedia of Criminal Justice. Retrieved March 10, 2007, from [http://www.sloan-c-wiki.org/wiki/index.php?title=University\\_of\\_North\\_Carolina\\_at\\_Pembroke\\_--\\_cjencyclopedia.com:\\_Online\\_Encyclopedia\\_of\\_Criminal\\_Justice](http://www.sloan-c-wiki.org/wiki/index.php?title=University_of_North_Carolina_at_Pembroke_--_cjencyclopedia.com:_Online_Encyclopedia_of_Criminal_Justice)
- Sfard, A. (1998). On two metaphors for learning and the dangers of choosing just one. *Educational Researcher*, 27(2), 4-13.
- Surowiecki, K. (2004). *The wisdom of crowds*. New York, NY: Doubleday.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wenzloff, J. (2005). Furl, furl, furling: Social on-line bookmarking for the masses. Retrieved July 10, 2007, from [http://www.classroomhelp.com/workshop/Furl\\_Guide.pdf](http://www.classroomhelp.com/workshop/Furl_Guide.pdf)
- Williams, J. B., & Jacobs, J. (2004). Exploring the use of blogs as learning spaces in the higher education sector. *Australasian Journal of Educational Technology*, 20(2), 232-247. Retrieved October 2, 2007, from <http://www.ascilite.org.au/ajet/ajet20/williams.html>
- Windham, C. (2006). *Getting past Google: Perspectives on digital literacy from the millennial mind* (EDUCAUSE Learning Initiative White Paper). Retrieved August 3, 2007, from <http://www.educause.edu/ir/library/pdf/ELI3007.pdf>

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**Editor's Note:** Global adoption of distance learning impacts traditional institutions of higher learning. It raises new questions about pedagogy, the changing role of teachers and learners, and academic support requirements. China is experiencing revolutions in its economic and educational systems yet requirements for distance learning are strikingly similar to those of other industrialized nations.

## **An Empirical Study on Academic Achievement and Utilization of Support Provisions by Tertiary English Language E-learners in China**

**Tong Wang, Charles K. Crook**

China

### **Abstract**

This paper explores the utilization patterns of different achieving e-learners in their interaction with the institutional support provisions in the context of tertiary English language online education in China. Specifically, the project addresses three research issues: 1) What is the demographic picture for high, average, and low achievers of tertiary English language elearning in China? 2) Are there statistical differences in the utilization of support provisions among the three groups? 3) Which variables are correlated with e-learners' academic achievement?

115 randomly selected Chinese tertiary e-learners participated in a questionnaire survey. Descriptive, comparative, and correlation analyses were conducted and important findings were yielded. The paper calls for in-depth research into the elearning process and learning ecologies for the purpose of informing and optimizing learner support system design for elearning.

**Keywords:** academic achievement, learner support, English language online education, system design.

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### **Background**

Online education has been regarded by many governments and organizations as an important educational mode which can contribute significantly to lifelong learning in a knowledge society (Aceto *et al.*, 2004; Alhabshi & Hakim, 2003; Bell, 2002; Bello, 2003; Gudmundsson, 2004; Helios, 2005; Hernes, 2003; Juma, 2003; Kappel, 2002; Kerrey & Isakson, 2000; Kwok *et al.*, 1999; Lewis, 2002; Mason, 2003; MoE, 1996, 2004; Moore & Tait, 2002; Sangra, 2003; Tabs, 2003; Taylor, 2003; The European ODL Liaison Committee, 2004; UNESCO, 2002; Wang, 2006; Zhang, 2003). Hence, its development has been given unprecedented importance, despite concerns and hesitation of various forms at various levels. This is also true of China. China Ministry of Education (MoE) coined a special term for online education - - "modern distance education" (xian dai yuan cheng jiao yu in Mandarin pronunciation), emphasizing the technological element employed by this mode of education. As in many nations, China joined the campaign of promoting the panacea-looking phenomenon and has been undergoing an eventful but rewarding learning process of experimentation.

In 1998, China's MoE endorsed the mission of developing tertiary online education and put it in *The Action Plan for Innovating Education in the 21st Century* (Ding, 2005). This was approved in 1999 by the State Council and modern distance education (online education) made its debut in

government documentation in China. The year 1998 witnessed the birth of the first group of tertiary online institutes with the Chinese MoE accrediting four prestigious universities as the very first pioneers experimenting with tertiary online education. Until 2003, a total of 68 universities/ organizations were approved in piloting tertiary online education in the Chinese Mainland, of which 67 were universities (MoE, 2002) and one was China Central Radio TV University (CCRTVU). The number of the pilot organizations is the same at the present time.

Among the 68 tertiary online institutions, 12 universities offered English language online degree programs by 2004 (Wang, 2004). By November of 2005, the number of universities rose to 20, based on website search results and confirmed by telephone interviews. By June of 2006, three more universities joined the 2005 school list in providing online degree programs in English language education. According to web search results in 2005, only two foreign languages were taught online within China: English and Japanese. English is the more popular foreign language taught via the Internet.

## **Introduction to Learner Support at BeiwaiOnline**

This section introduces one particular Chinese online institute which serves as the research site for the authors to explore their research questions.

Beijing Foreign Studies University (BFSU), one of the top ranking universities in China, was approved in 2000 by the MoE to run tertiary online education. As the most prestigious foreign languages education university, BFSU has produced two thirds of Chinese ambassadors and earned fame as “the cradle of diplomats and dreamland of foreign language learning” in China. Upon receiving its license, BFSU set up the Institute of Online Education (BeiwaiOnline) to offer English language education programs at both diploma and post diploma BA levels. With the first group of online students enrolled in 2001, BeiwaiOnline took off and developed into the second biggest single-mode online institute (second to CCRTVU) in China in terms of the registered student number in the major of English language education.

Besides student size, BeiwaiOnline is unique among its 67 domestic counterparts in several aspects. The founding rationale of the institute drew upon the resource-based theory and the ecological approach (Gu, 2006). The theories were then translated into the overarching guidelines for the system design and administration phases (termed as the “6-word principle” within the institute): resource, service, quality, process, monitoring, and outcome. System design was heavily stressed in the first five years of this institute. By 2005, the institute had mature systems in place: resources development, learner support, tutor support, quality assurance, and assessment. The Internet and multimedia technologies were employed in delivering learning resources and facilitating interaction, creating a blended learning system for the e-learners.

Within seven years, BeiwaiOnline set up its national network at 46 study centers in 20 provinces (including municipalities and autonomous regions) across China, forming a BeiwaiOnline education network. Program-wise, the organization currently provides four programs: BA, Diploma, Post-Diploma BA, and training.

BeiwaiOnline currently supports learners in pre-enrolment, induction, course learning, graduation and after-graduation. An overview of learner support at BeiwaiOnline is provided in Table 1.

The purpose in choosing this organization as the case of analysis lies in the intent that its learner support system design rationale and experience can serve as a reference for its counterparts as they might face the same or similar challenges.

**Table 1**  
**An overview of learner support provisions at BeiwaiOnline**

Phase	Learner needs	Service Provider	Location	Tool/ Application	
Pre-enrolment	Information about institution, programs and courses	Administration	HQs, LCs	Print, WWW, other media	
	Guidance concerning choice of programs	Administration	HQs, LCs	Phone, email, WWW, print	
	Guidance on financial/practical matters	Administration	HQs, LCs	Print, phone, email	
	Orientation program on BeiwaiOnline elearning process	Administration	HQs, LCs	Print, phone, email	
Induction	Registration, user identity and passwords	Administration	HQs	Email, phone	
	Dispatch of printed and other learning material	Administration	HQs	Postal service	
	Strategy-based instruction; Orientation to programs; orientation to the distance learning system; orientation to online learning techniques; orientation to learner strategies; orientation to technical applications	Administration Faculty	HQs, LCs	WWW, email, phone, print, other media	
	Metacognitive support	Strategy-based instruction in course orientation	Faculty	HQs, LCs	WWW, print
Learning	Tutorial	Faculty	LCs	Face-to-face	
	Course-based learning support	Faculty, fellow online students	LCs, HQs	WWW, phone, email, forum	
	Cognitive support	Learning process monitoring	Faculty, administration	HQs, LCs	WWW
		Assessment	Administration, faculty	HQs	WWW, print
		Language skills resource centre	HQs	HQs	WWW
	Affective/social support	Counseling	Faculty	HQs, LCs	WWW, email, forum, phone
		Learner community building	Faculty, administration, fellow online students	HQs, LCs	WWW, email, forum, face-to-face
	Systemic support	Technical assistance and training	Administration	HQs	WWW, email, forum, phone
		Support in financial and administration matters	Administration	HQs, LCs	Phone, email, forum, face-to-face
	Graduation	Diploma/accreditation	Administration	HQs	WWW, print, forum, email
After graduation	Counseling on further study (to be provided)	Administration	HQs	Print, email, WWW	
	Alumni services	Administration	HQs	email, WWW, Forum	

HQs: headquarters; LCs: (local) learning centers

## Literature Review

Research literature reveals that a number of variables influence learner achievement in conventional education settings (Eppler & Harju, 1997; Harper & Kember, 1986; Ward, 1994). However, very little has been done to explore the same issues with regard to the characteristics of students studying in an online education environment.

In distance education related literature, Fan et al (1999) compared higher achievers' knowledge, use, and satisfaction with student support services to those of low achievers in the Open University of Hong Kong. Findings showed support services can have a potentially positive effect on the academic achievement of students. However, observations for the two achieving groups appeared to be very different. They concluded: 1) student characteristics should be taken into consideration for effective support; and 2) promoting the awareness of available support services and strengthening the student counseling was key to enhancing students' achievement.

Powell et al (1990) examined the relationship between student predisposing characteristics and student success. They proposed that students, on entry, can be "risk stratified" - - that is, if students can be determined as "at risk" of withdrawal/failure or predisposed toward success.

Chan et al (1999) investigated the factors contributing to high achievers' success and obstacles leading to low achievers' difficulties in studying at the Open University of Hong Kong. No significant differences were found between the two achievement groups in their reported use of support services. However, time invested in study was an important factor affecting academic success and low achievers seemed to be more adversely influenced by difficulties in learning.

Taplin et al (2001) compared the help-seeking strategies used by higher achievers and low achievers at the Open University of Hong Kong. There were no statistically significant differences between the two groups but there was a tendency for more of the high-achieving students to seek help for personal difficulties relating to their courses.

Taplin and Jegede (2001) investigated gender differences that contributed to successful achievement in distance education. They analyzed responses of 712 high achieving and low achieving students at the Open University of Hong Kong. They found women were more likely to seek help and supportive environments. Under-achieving women were more likely to find it difficult to seek help.

Among the research efforts above, no study specifically examined foreign language e-learners. This research project is an institutional study of tertiary English language online education. It is based on national level findings regarding patterns, issues, and tensions in learner support system design and utilization in Chinese tertiary elearning settings (Wang, 2004, 2005). Three achieving groups are under study: high, average, and low. Their behavioral patterns of using learner support provisions are explored, compared, and analyzed.

## Research Design

This section introduces the research questions, method, participants, and analytical methods.

### Research questions

Three research questions were designed for online tertiary English language education in China:

1. What is the descriptive picture for high, average, and low achievers in relation to learner demographic information, computer competency, access to the Internet, learning strategies, utilization of support, and perception of elearning outcomes?
2. Are there statistical differences in learner demographics, computer competency, access to the Internet, learning strategies, utilization of support, and perception of elearning outcomes among the three groups of achievers?
3. What variables in the areas of learner demographic information, computer competency, access to the Internet, learning strategies, utilization of support, and perception of elearning outcomes are correlated with e-learners' academic achievement?

### Method

A questionnaire survey was implemented from August 2004 to early 2005. The questionnaire ( $\alpha=0.84$ ) was the revised version of that used in Wang's national study on support system design and service utilization in relation to Chinese tertiary English language elearning (2004). The questionnaire contains 30 questions in five areas: learner demographic information, computer competency and access to the Internet, learning strategies, utilization of support provisions, and self-evaluation of elearning outcomes. This method was used for the purpose of capturing how different achieving groups of language e-learners reported their use of support provisions.

## Participants

In this research, three groups of BeiwaiOnline students were under study based on their past academic performance in English course examinations: a high achieving group (mean of past English course examination scores  $\geq 80$ ), an average achieving group ( $80 >$  mean of past English course examination scores  $\geq 60$ ), a low achieving group (mean of past English course examination scores  $< 60$ ). The reason for stratifying the sample in this way is that 60 is the passing score for any course at BeiwaiOnline. Failure to meet this requirement would result in re-taking the course. 80 is the minimum score for academic excellence awards at the institute. The English courses at BeiwaiOnline are divided into English skills courses (focusing on language skills development) and content courses (focusing on culture and language knowledge), both delivered in English. The final course score for each English course is the combination of two parts: online continuous assessment (20 percent of the final course score) and sitting-in examinations (80 percent of the final course score). Both parts are achievement tests in nature. The continuous assessment contains course assignment and unit-based online assessment. The sitting-in final examinations take the conventional format, which are given twice a year at all study centers of BeiwaiOnline.

According to the internal report (BeiwaiOnline, 2006) about BeiwaiOnline examination analyses, an average of 11.4% of BA and post-diploma BA students could not pass their BA courses; 15.3% of Diploma programs students failed their courses.

This study targets the student population of both BeiwaiOnline BA and diploma programs enrolled from the autumn of 2001 to the spring of 2003. This ensures that participating students have studied in the BeiwaiOnline system for at least one year and have developed their elearning strategies. The project randomly selected BeiwaiOnline students in their second year and above at 46 study centers across China. Selection results are shown in Table 2. As face-to-face tutorials were not compulsory at BeiwaiOnline and the target student population was scattered at 46 study centres in 20 provinces in China, it was difficult to conduct the questionnaire survey in a face-to-face manner. Email was the means through which questionnaires were sent and collected. Having considered the low return rates of surveys conducted through email, two instant mobile messages were sent to the sample population as reminders for the purpose of encouraging more returned questionnaires. With the help of the measures above, the return rate for the whole sample population was 25.6%. Chi-square test ( $p=0.368$ ) informs that there is no statistical difference among the return rates for the three groups.

**Table 2**  
**A summary of selection results**

Group	Total student population	Number of random selected learners	Returned questionnaires	Return rate
High achieving	563	150	46	30.7%
Average achieving	2,578	150	36	24.0%
Low achieving	676	150	33	22.0%
Total	3,817	450	115	25.6% (average)

## Analytical methods

First, descriptive analysis was conducted to capture the overall picture of learner support utilization by BeiwaiOnline students in general and within each achieving group. This was followed by one-way ANOVA analysis intending to probe the group differences. Last, correlation analysis was administered to examine which variables were correlated with e-learners' academic performance. All data were processed with SPSS software (version 11.0).

## Research Findings

Three types of analyses were administered and the findings were as follows.

### 1. Descriptive Findings

Descriptive findings address the first research question of the study.

**Research question 1:** what is the descriptive picture for high, average, and low achievers in the areas of learner demographic information, computer competency, access to the Internet, learning strategies, utilization of support provisions, and perception of elearning outcomes?

**Demographics of e-learners:** Females constituted the majority of the student population. Male students made up only 34.8% of BeiwaiOnline learners. More than half of the students had diploma degrees prior to enrolment, one fifth had BA degrees, and less than 4% had secured post BA degrees before starting their learning at BeiwaiOnline.

*Education Level:* It is clear that the overwhelming majority of BeiwaiOnline learners received higher education at various levels prior to enrollment. Given this context, questions about enrollment motivation might be formed - - what were the major reasons for these adults to choose BeiwaiOnline degree programs? Were they mainly internally and/or externally driven in their choice? The findings inform that both internal and external factors drove the students to choose BeiwaiOnline degree programs. External reasons expressed were getting a degree, getting a better job, and becoming a student of BFSU (one of the top-ranking universities in China); internal motivators were related to good mastery of English and interest in studying English.

**Learner computer competency and access to the Internet:** Research findings reveal that BeiwaiOnline students had convenient access to the Internet and their computer literacy level was high. 43.5% of students could skillfully use most of the application software; 33% could skillfully use the computer and solve technical problems; 4.3% were professionals in computer technologies. At a less skilled degree, 18.3% of the learners reported that they knew how to use basic application software and therefore could technically survive in the elearning system. In contrast, only 0.9% of the learners expressed that they did not know how to use the computer before enrolment. In summary, BeiwaiOnline students achieved computer literacy prior to enrolment. Regarding learner access to the Internet, 87% of the learners were connected to the Web via ADSL (Asymmetrical Digital Subscriber Loop) and LAN (local Area Network), thus enjoying a relatively fast speed for utilizing online resources and services compared with telephone MODEM access. This can be traced to the institutional entry requirement of student web access and IT literacy. Here, a series of interesting questions might be asked: “could the high IT competence of BeiwaiOnline learners help them become qualified e-learners? Could the technical competence motivate students to take up more online provisions?” From the findings in this research, there seems to be little evidence to prove the correlation between IT competence and online learning behaviors.

**Learning strategies:** Most BeiwaiOnline adult students worked during the day, so more than half of the learners chose evenings as the major time for learning. 33% of students did not have a regular study time pattern. As a result, they carried out their learning at irregular time slots. 20% of the students could study during the day when they were not busy with work. This does not mean that they got the support from their managers for doing so. A few were in this privileged situation as their bosses gave them the green light in contrast with the majority who had to “steal time” for learning secretly and guiltily. About 12.2% of the early-rising students could use the early hours/minutes for learning. It is worth noting that 4.3% of BeiwaiOnline learners enjoyed more freedom in choosing time for learning, as they were self-employed. Generally speaking, BeiwaiOnline students, as with many learning adults, led a busy working and learning life.

*Time frames for study among BeiwaiOnline students:* Confronted with the multiple commitments both at work, in professional development, and in family, possessing and applying effective metacognitive strategies is vital to the working students. Failure of managing self and time well will create problems and challenges for their study. The research findings reveal some major difficulties confronted by BeiwaiOnline learners during their learning: heavy study load, not knowing how to manage time well, not knowing how to use BeiwaiOnline resources and services, feeling lonely during study, difficult course content, and not having autonomous learning methods.

Strikingly, the difficulty of course contents did not loom large as the major factor (ranked as the fifth difficulty) hindering the learning outcome. In relation to time management, question 14 in the questionnaire asked the participants to assess their time management ability, 54.3% of the respondents reported “average”, 8.7% expressed “poor”, another 8.7% chose “none”, and 24.8% opted for “strong”.

*Multiple signals for different roles in the institute.* For e-learners, it is important to enhance their metacognitive strategies so as to ensure a successful elearning experience. For resources developers and tutors, it is necessary to examine whether the course material or delivery are best designed or conducted from the perspective of learner support. For administrators and administration staff, it is crucial to explore whether the learner support system design and provisions need to be critically reviewed. Immediate questions might be formed about the deeper reasons for the self-reported deficiency of metacognitive strategies on the part of the learners: is it due to the lack of support services at the institute? Is it due to the sub-standard quality of the provisions? Is it due to students’ high expectations of themselves? Is it due to the flaws or limitations with course design and/or assessment?

**Utilization of support provisions:** As to students’ view on learner support services provided by the institute, 83.4% of the learners were “basically” or “very satisfied” with the services. 68% of the students expressed their hope to “get more web-based services” while in actual deeds they utilized more of the offline provisions. Top five most participated learner support services at BeiwaiOnline are listed in Table 3.

**Table 3**

**Top five most participated learner support services at BeiwaiOnline**

<b>Question 15: Learner support services</b>	Percentage of students choosing “often participation” choice
Face-to-face tutorial	65.2%
Voice of BeiwaiOnline (Online synchronous programs)	15.7%
Course-based forums	15.7%
Free discussion forums	13.0%
Learner support hotline	12.2%

It is clear that the institute provided resources and services and that the students were basically satisfied with these. However, uptake was not high. The discrepancy between “the services are there” and “the learners do not come often” calls for serious thinking about the deeper reasons. It might reflect students’ understanding of the institute’s intentions in its support services or students’ hopes but somehow the actual uptake of the support provisions was proved otherwise. It might indicate some design problems not only with learner support system but also with other systems as well within the elearning framework.

**Learner perception of elearning outcomes:** When asked about students’ self-perception of online learning outcome, the students expressed their opinions as follows. The development of

self-directed learning strategies top their progress list followed by English proficiency level, confidence in learning, cognitive strategies, and belongingness to the institute. The reported enhancement of self-directed learning strategies proves the two-directional relationship between learner autonomy and successful elearning.

This study also aims at discovering whether different achievement groups employ different learner support services and study strategies. After acquiring the overall picture for all BeiwaiOnline learners, comparative and correlation investigations among the different achieving groups were conducted. With the help of these analyses, the authors intend to explore what variables are correlated with e-learners' academic performance. Two steps are taken in analysis: comparative analysis to locate where the differences lie among the three groups and correlation analysis to detect the strength of association between the variables and learner achievement score. Each step of analysis is introduced below.

## 2. Comparative Findings

Comparative analyses address the second research question of the study.

**Research question 2:** Are there statistical differences in the areas of learner demographic information, computer competency and access to the Internet, learning strategies, utilization of support provisions, and perception of elearning outcomes among the three groups of achievers?

In this study, there are 37 variables falling into the areas of learner demographic information, computer competency and access to the Internet, learning strategies, use of support provisions, and perception of elearning outcomes. In order to detect which variables statistically distinguish the three achieving groups, one-way ANOVA test was administered and ten out of 37 variables were identified being statistically significant among the three groups. However, caution needs to be taken in interpreting the results due to chance factor in multiple statistical testing.

The one-way ANOVA test results reveal that the three achieving groups were statistically different in three areas: metacognition (manifested in time management, self-management, resource and service use, confidence in elearning), affect (sense of belongingness), and socialization (interaction with peers and tutors). The high achieving group excels in the means of the ten variables in all of the three areas compared with the average and low achieving groups. The low achieving group achieves the lowest mark for most of the variables (Table 4).

**Table 4**

### A summary of descriptive findings about the achieving groups

Mean of variable	HAG	AAG	LAG	F	P
Log-in frequency to BeiwaiOnline website	3.85	3.25	2.76	8.13	<.01
Average weekly study time	2.17	1.67	1.61	7.93	<.01
Having study plan	1.78	1.72	1.52	3.46	<.01
Time management	3.22	2.94	2.64	7.70	<.01
Participating tutorials	3.78	3.56	3.39	4.60	<.01
Participating synchronous programs	3.02	2.72	2.42	6.65	<.01
Participating course-based forums	3.07	2.53	2.42	9.72	<.01
Participating free discussion forums	2.80	2.42	2.30	4.20	<.01
Sense of belongingness to BeiwaiOnline	2.09	1.58	1.63	4.95	<.01
Belief in effectiveness of elearning	2.87	2.36	2.42	5.29	<.01

HAG = high achieving group; AAG = average achieving group; LAG = low achieving group

Multiple comparisons Scheffe test (Table 5) results inform that the variance lies mainly between the high achievers and low achievers. Based on the multiple comparisons results, it is paramount

to pay attention to scaffolding the low achieving group in the ten variables detected to be statistically different among the groups.

**Table 5**  
**Multiple comparisons Scheffe test results for the achieving groups**

Dependent Variable	(I) GROUP	(J) GROUP	Mean	Std. Error	Sig.	95% Confidence	
			Difference (I-J)			Lower Bound	Upper Bound
Log-in frequency to BeiwaiOnline website	High	Average	.60	.27	.09	-.06	1.26
		Low	1.09	.27	.00	.41	1.77
	Average	High	-.60	.27	.09	-1.26	.06
		Low	.49	.29	.24	-.22	1.21
	Low	High	-1.09	.27	.00	-1.77	-.41
		Average	-.49	.29	.24	-1.21	.22
Average weekly study time	High	Average	.51	.16	.01	.12	.90
		Low	.57	.16	.00	.17	.97
	Average	High	-.51	.16	.01	-.90	-.12
		Low	.061	.17	.94	-.36	.49
	Low	High	-.57	.16	.00	-.97	-.17
		Average	-.06	.17	.94	-.49	.36
Having study plan	High	Average	.06	.10	.84	-.19	.31
		Low	.27	.10	.04	.01	.53
	Average	High	-.06	.10	.838	-.31	.19
		Low	.21	.11	.17	-.07	.48
	Low	High	-.27	.10	.04	-.53	-.01
		Average	-.21	.11	.17	-.48	.07
Time management	High	Average	.27	.15	.17	-.09	.63
		Low	.58	.15	.00	.21	.95
	Average	High	-.27	.14	.17	-.63	.09
		Low	.31	.16	.15	-.08	.70
	Low	High	-.58	.15	.00	-.95	-.21
		Average	-.31	.16	.15	-.70	.08
Participating tutorials	High	Average	.23	.13	.21	-.09	.54
		Low	.39	.13	.01	.07	.71
	Average	High	-.23	.13	.21	-.54	.09
		Low	.16	.14	.51	-.18	.50
	Low	High	-.39	.13	.01	-.71	-.07
		Average	-.16	.14	.51	-.50	.18
Participating course-based forums	High	Average	.54	.16	.00	.15	.93
		Low	.64	.16	.00	.24	1.04
	Average	High	-.54	.16	.00	-.93	-.18
		Low	.10	.17	.83	-.32	.53
	Low	High	-.64	.16	.00	-1.04	-.24
		Average	-.10	.17	.83	-.53	.32
Participating free discussion forums	High	Average	.39	.18	.11	-.06	.84
		Low	.50	.19	.03	.04	.96
	Average	High	-.39	.18	.11	-.84	.06
		Low	.11	.20	.85	-.38	.60
	Low	High	-.50	.19	.03	-.96	-.04
		Average	-.11	.20	.85	-.60	.38
Sense of belongingness to BeiwaiOnline	High	Average	.50	.18	.02	.06	.95
		Low	.45	.18	.05	-.00	.90
	Average	High	-.50	.18	.02	-.95	-.06
		Low	-.05	.19	.96	-.53	.43
	Low	High	-.45	.18	.05	-.95	.00
		Average	.05	.19	.96	-.43	.53
Belief in effectiveness of elearning	High	Average	.51	.17	.02	.08	.94
		Low	.45	.18	.05	.01	.89
	Average	High	-.51	.17	.02	-.94	-.08
		Low	-.06	.19	.95	-.53	.40
	Low	High	-.45	.18	.05	-.86	-.01
		Average	.06	.19	.95	-.40	.53
Participating synchronous programs	High	Average	.30	.16	.18	-.10	.70
		Low	.60	.16	.00	.19	1.01
	Average	High	-.30	.16	.18	-.70	.10
		Low	.30	.17	.23	-.13	.73
	Low	High	-.60	.16	.00	-1.01	-.19
		Average	-.30	.17	.23	-.73	.13

### 3. Correlation findings

Correlation analyses address the third research question of the study.

**Research question 3:** What variables in the areas of learner demographic information, computer competency and access to the Internet, learning strategies, utilization of support provisions, and perception of elearning outcomes are correlated with e-learners' academic achievement?

Among the 37 variables under study, which ones contribute to the differences in the academic scores? It is hoped that the identification of these variables could generate value to the design of the learner support system and the training of the learners in the use of the support provisions. Correlation analysis was administered to answer the third research question of this study. It is another way of statistically approaching the same questions in the project: ANOVA test on group differences while correlation test on the strength of association between the variables and learner achievement.

Correlation test results are reported in Table 6.

**Table 6**  
**A summary of correlation test results**

Variable	Correlation with achievement score	P
Time management	0.41	<.01
Log-in frequency to BeiwaiOnline website	0.37	<.01
Participating synchronous programs	0.37	<.01
Participating course-based forums	0.36	<.01
Average weekly study time	0.32	<.01
Having a study plan	0.31	<.01
Participating free discussion forums	0.30	<.01
Participating tutorials	0.29	<.01
Sense of belongingness to BeiwaiOnline	0.24	<.01
Using learner support hotlines	0.22	<.01

Ten out of the 37 variables were found correlated with learner academic performance. Here, caution needs to be taken in interpreting the results due to chance factor in multiple statistical testing. Encouragingly, nine of the variables are also the variables which differentiate the three achieving groups. The only different variable is learner use of support hotlines which is correlated with learner academic performance but not a differentiating factor for the achievement groups.

## Discussion

The value of this research is multi-fold.

Firstly, it presents an institutional case of learner support in tertiary web-based English language education in China. An in-depth picture is captured regarding a specific institute as a Chinese case of blended tertiary elearning providers. The findings about BeiwaiOnline students re-affirm the tensions in the national pattern of learner support provision and reception (Wang, 2005). Tension still exists between vigorous institutional learner support efforts and scant learner utilization of most of the provisions. Possible reasons are identified for different roles in the elearning system. For e-learners, they might lack metacognitive strategies concerning self-management, time-management, and effective use of resources; for learner support staff, the design rationale of the learner support system and provisions needs to be examined; for course developers, resources and assessment design needs to be critically reviewed from the perspective

of learner support. In general, the Institute of BeiwaiOnline provides a whole array of learner support resources and services, online provisions in particular. However, the utilization rate of online services turns out to be rather disappointing. The high IT literacy at entry does not seem to help much in facilitating higher participation rates for the online provisions on the part of the learners. The face-to-face component enjoys much more enthusiasm among the learners. Attention needs to be given to enhancing students' metacognitive strategies and self-directed learning strategies so as to influence more uptake of online resources.

At a deeper level, the tensions and challenges might be caused by the paradigm shift from the conventional campus-based teacher-led teaching system to the student-based constructivist learning system. In a teaching system, the learning process is closely monitored by the teachers; whereas in the learning system, the teachers become part of the learning resources and the students have to monitor their own learning, design their own learning experience and make their own decisions on how to effectively use the learning resources. In this sense, metacognitive strategies become vital to the e-learners. In China, strategy-based instruction is not commonly found in the curricula of the teaching system and students as a result are poorly informed and trained in strategy use. However, an elearning system calls for a good mastery of different strategies so as to ensure a successful elearning experience. Therefore, learner autonomy/metacognitive strategies, that is, being a qualified e-learner, become urgent qualities to be developed. Correlation findings also discover a positive relationship between effective strategy use and academic performance. In a campus-based teaching system, the tutor plays a predominant role. In contrast, the e-learner in an elearning system has to make decisions to integrate learning resources, tutor, peers, progress monitoring into a micro-system which can best accommodate his/her own variables and can best facilitate his/her own elearning. This cannot and will not be done by any tutor. In this sense, self-directed learner qualities are highly desired in the elearning paradigm. Candy (1991) held that learner autonomy is both a goal and a process. McLoughlin and Marshall (2000) argued that "there is an expectation in distance and online learning programs that learners take on a high level of responsibility and initiative for their own learning". Knowles (1975, p15) explained that "students entering these programs without having learned the skills of self-directed inquiry will experience anxiety, frustration, and often failure." To be successful in elearning, e-learners "need the skills required for effective online learning, and those skills need to be explicitly taught and supported in the online learning environment" (Ludwig-Hardman & Dunlap, 2003). In this sense, online institutions are challenged with double missions: to develop autonomous learners and to impart knowledge and skills.

Secondly, the research attempts to examine the relationship between learner support use and students' academic performance. Comparing and contrasting the three achieving groups at BeiwaiOnline reveals a positive correlation between academic achievement level and utilization of online provisions: that is, high achievers tend to use more online provisions and more effective metacognitive strategies; low achievers use less online services and suffer from the lack of effective learner strategies. The factors most related to student academic performance are time management strategies (time management, average weekly study time, having a study plan), use of online resources (participating synchronous programs, participating course-based forums, and participating free discussion forums), use of offline services (participating face-to-face tutorials and use of learner support hotlines), and affective strategy (sense of belongingness to BeiwaiOnline). It can be inferred that further support of students in relation to these areas could lead to improved academic performance. It is necessary to point out that the factors or variables identified in the research not only distinguish e-learners in their academic achievement but also act as the key indicators for student retention (Ashby, 2004; McGivney, 2004; Simpson, 2004; Tait, 2004; Woodley *et al.*, 2001). The findings are helpful for making intervention schemes on the part of the institute and for informing the e-learners of the urgency in adjusting learning strategies and behaviors in using support provisions.

Thirdly, these research findings pinpoint the importance of strategy-based instruction. Although BeiwaiOnline commits itself to “Whole Person” learner development and strategy training in different phases of the elearning process in the form of credit-bearing courses, strategy-based instruction calls for an in-depth and long-term intervention scheme. Introducing the strategy notions would not suffice in bringing about learner competence. Incorporating strategy-based instruction into the curriculum and the design of the teaching and learning processes might create a deeper effect on the students. It is paramount to make it explicit to the e-learners that strategies, metacognitive strategies in particular, could decide how successful their elearning experience would be; hence, students should attach strategic importance to developing the competence of knowing how to be a self-directed e-learner and practicing the strategies in the elearning process.

Fourthly, the design of learner support system needs to be revisited and assessed. Reflection is necessary upon how to better accommodate students’ variables into the overall support system design. It is not desirable to arbitrarily divide “what is provided” and “what is utilized”. The design of learner support system should come from what is needed by the learners (Goodyear, 1997) and what is happening in the elearning process. BeiwaiOnline current learner support system has adopted a top-down model by paying attention to what should be supported at the expense of what is actually needed and what is truly happening during learning. Moreover, as the overwhelming majority of BeiwaiOnline students work full time besides studying full-time at the institute, their local learning environment varies from person to person. The individual learner variables heavily influence his/her elearning outcome. When the conflicting commitments and social roles for the working students fight for their limited disposable time and energy, it would not be valid to assume that students should make full use of all the support provisions. A good learner support system needs to accommodate the “hard facts” about the learners and create convenient access to learner support provisions. In this sense, it would be extremely valuable to examine learner variables and learning process for the purpose of informing and optimizing a learner support system from a bottom-up approach. The study on the process-based learning ecologies is highly necessary for the purpose of entering the e-learners’ world (Tait, 2003) and discovering the real needs for learner support.

Last, technology-wise, when online education revolutionizes learner access to resources and services, it, in another sense, has strong framing effects on the e-learners with Internet access and a wired computer as the precondition for participating in elearning. Here, mobile technologies may have a role to play. With the help of mobile technologies, it is hoped that e-learners are not bound to the desktop computer if they want to access the online resources and services at any time and any place. Instead, these provisions can be delivered, within a reasonable price range, to their portable and mobile devices, for example, laptops, mobile phones, MP3 and MP4 players, PDA (Personal Digital Assistant), PSP (Play Station Portable), eReader, etc. In this way, the access to the learning resources and services is widened and diversified, creating more flexibility for the learners. In this sense, learning can truly take place at any time and anywhere.

## Conclusion

One limitation with this research is the recruitment method. The design will be more vigorous if the same proportion of participants is randomly selected from each achieving group. However, having considered the complexity of the varying sizes of the three groups and the wide geographical dispersion of individual learners, especially the large population for the average achieving group (2,578 in total), the researchers finally decided to choose the same number of participants (n=150) from each achieving group.

Another limitation with this study is that it relies on self-reporting data and therefore suffers from the weakness of respondent memory weakness, respondents not taking sufficient care to answer correctly, and respondents providing answers that researchers want, etc.

Despite these limitations, the study successfully captures how different achieving groups utilize learner support services and the associated attitudes. To understand the deeper reasons behind the utilization patterns of the e-learners, in-depth research into their elearning process and learning ecologies is necessary.

## References

- Aceto, S., et al. (2004). *Lifelong Learning Policies and Practice: The Drive of ICT*. Brussels: The Menon Network EEIG.
- Alhabshi, S. O., & Hakim, H. (2003). *Unitar Malaysia*: UNESCO.
- Ashby, A. (2004). Monitoring Student Retention in the Open University: Definition, Measurement, Interpretation and Action. *The Journal of Open and Distance Learning*, 19(1), 65-77.
- BeiwaiOnline. (2006). *Internal Report on 2006 Examinations Analyses*.
- Bell, M. (2002). A Survey of Online Education and Services in Australia. [http://www.dest.gov.au/sectors/higher\\_education/publications\\_resources/summaries\\_brochures/universities\\_online.htm](http://www.dest.gov.au/sectors/higher_education/publications_resources/summaries_brochures/universities_online.htm), February 3, 2005.
- Bello, J. C. D. (2003). *The Virtual University: University Vertual De Quilmes, Argentina*: UNESCO.
- Candy, P. C. (1991). *Self-Direction for Lifelong Learning*. San Francisco: Jossey-Bass.
- Chan, M., et al. (1999). *A Comparison of the Study Habits and Preferences of High Achieving and Low Achieving Open University Students*. Paper presented at the 13th Annual Conference of the Asian Association of Open Universities, Beijing.
- Ding, X. F. (2005). 远程教育质量保证国际比较研究及其主要结论. *Journal of Distance Education in China*, 04(S), 12-17.
- Eppler, M., & Harju, B. (1997). Achievement Motivation Goals in Relation to Academic Performance in Traditional and Nontraditional College Students. *Research in Higher Education*, 38(5), 557-573.
- Fan, R., et al. (1999). *Effective Student Support Services - an Achievement-Oriented Approach*. Paper presented at the 13th Annual Conference of the Asian Association of Open Universities, Beijing.

- Goodyear, P. (1997). The Ergonomics of Learning Environments: Learner-Managed Learning and New Technology. *Creacion de materiales para la innovacion educativa con nuevas tecnologias*, 7-17.
- Gu, Y. G. (2006). An Ecological Model of E-Learning in Chinese Context - - Critical Reflections of 5 Years' Practice of E-Learning Management in Iboe. *Studies in Continuing Education*, 28(2), 99-120.
- Gudmundsson, A. (2004). Distributed Learning in the Nordic Countries and Canada. *European Journal of Open, Distance and E-learning*, [www.eurodl.org/materials/contrib/2004/Arnor\\_Gudmundsson.htm](http://www.eurodl.org/materials/contrib/2004/Arnor_Gudmundsson.htm), June 6, 2005.
- Harper, G., & Kember, D. (1986). Approaches to Study of Distance Education Students. *British Journal of Education Technology*, 3(17), 212-222.
- Helios. (2005). *Is Elearning Improving Employability of European Citizens?* [www.education-observatories.net/helios/reports/HELIOS%20thematic%20report-Employability.pdf](http://www.education-observatories.net/helios/reports/HELIOS%20thematic%20report-Employability.pdf), November 16, 2005.
- Hernes, G. (2003). *The New Century: Societal Paradoxes and Major Trends*: UNESCO.
- Juma, M. N. (2003). *The Virtual University: Kenyatta University*: UNESCO.
- Kappel, H. H. (2002). Distance Education at Conventional Universities in Germany. *International Review of Research in Open and Distance Learning*, 2(2).
- Kerrey, B., & Isakson, J. (2000). *The Power of the Internet for Learning - - Moving from Promise to Practice*: The Web-based Education Commission, USA. [http://web.nenu.edu.cn/department/broadcast\\_tv/jzyg/wyn/zhidaolink/The%20Power%20of%20the%20Internet%20for%20Learning%20Final%20Report%20of%20Web-Based%20Education%20Commission.pdf](http://web.nenu.edu.cn/department/broadcast_tv/jzyg/wyn/zhidaolink/The%20Power%20of%20the%20Internet%20for%20Learning%20Final%20Report%20of%20Web-Based%20Education%20Commission.pdf), March 2, 2006.
- Knowles, M. (1975). *Self-Directed Learning: A Guide for Learners and Teachers*. San Francisco: Jossey-Bass.
- Kwok, L., et al. (1999). Imperative Issues on the Educational Process among Asian Open Universities, *13th Annual Conference of AAOU*. Beijing.
- Lewis, R. (2002). The Hybridisation of Conventional Higher Education: Uk Perspective. *International Review of Research in Open and Distance Learning*, 2(2).
- Ludwig-Hardman, S., & Dunlap, J. C. (2003). Learner Support Services for Online Students: Scaffolding for Success. *International Review of Research in Open and Distance Learning*, 4(1).
- Mason, R. (2003). *The University - - Current Challenges and Opportunities*: UNESCO.
- McGivney, V. (2004). Understanding Persistence in Adult Learning. *The Journal of Open and Distance Learning*, 19(1), 33-46.
- McLoughlin, C., & Marshall, L. (2000). Scaffolding: A Model for Learner Support in an Online Teaching Environment. <http://cea.curtin.edu.au/tlf/tlf2000/mcloughlin2.html>, May 10, 2005.
- MoE. (1996). 全国教育事业九五计划和2010年发展规划.
- MoE. (2002). 经教育部批准的67所现代远程教育试点学校名单.
- MoE. (2004). 2003-2007年教育振兴行动计划.

- Moore, M. G., & Tait, A. (2002). *Open and Distance Learning*: UNESCO.
- Powell, R., et al. (1990). Effects of Student Predisposing Characteristics on Student Success. *Journal of Distance Education*.
- Sangra, A. (2003). *UoC, Spain*: UNESCO.
- Simpson, O. (2004). The Impact on Retention of Interventions to Support Distance Learning Students. *Open Learning*, 19(1), 79-95.
- Tabb, E. D. (2003). *Distance Education at Degree-Granting Postsecondary Institutions: 2000-2001*: US Department of Education.
- Tait, A. (2003). Rethinking Learner Support in the Open University Uk. In A. Tait & R. Mills (Eds.), *Rethinking Learner Support in Distance Education* (pp. 185-197). London and New York: RoutledgeFalmer.
- Tait, J. (2004). The Tutor/Facilitator Role in Student Retention. *The Journal of Open and Distance Learning*, 19(1), 97-109.
- Taplin, M., & Jegede, O. (2001). Gender Differences in Factors Influencing Achievement of Distance Education Students. *Open Learning*, 16(2), 133-154.
- Taplin, M., et al. (2001). Help Seeking Strategies Used by High-Achieving and Low-Achieving Distance Education Students. *Journal of Distance Education*, 16(1).
- Taylor, J. (2003). *The Virtual University: Usqonline, Australia*: UNESCO.
- The European ODL Liaison Committee. (2004). *Distance Learning and Elearning in European Policy and Practice: The Vision and the Reality*.
- UNESCO. (2002). *Technologies for Education: Potentials, Parameter, and Prospects*: UNESCO.
- Wang, T. (2004). Learner Support and Tutor Support in Web-Based Degree Programs in Tertiary-Level English Education in China--a Descriptive Picture. In *Exploring Online Education*. Beijing: Foreign Language Teaching and Research Press, 55-75.
- Wang, T. (2005). Tensions in Learner Support and Tutor Support in Tertiary Web-Based English Language Education in China. *International Review of Research in Open and Distance Learning*, 6(3).
- Wang, T., Crook, C. (2006). The Experiment of Tertiary Online Education in China - - An Overview. *International Journal of Instructional Technology and Distance Learning*, 3(9), 3-16.
- Ward, E. (1994). Construct Validity of Need for Achievement and Locus of Control Scales. *Educational and Psychological Measurement*, 54(4), 983-992.
- Woodley, A., et al. (2001). Student Progress in Distance Education: Kember's Model Re-Visited. *Open Learning*, 16(2), 113-131.
- Zhang, W. Y. (2003). 开放大学的网上教学：亚洲地区七国九地的调查报告. *Journal of Distance Education in China*(9), 35-42.

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**Editor's Note:** There is a continuing dialog about alternative methods for teaching different subject matters online. The key seems to be engagement of the student in productive interactions.

## Using Comparative Reading Discussions in Online Distance Learning Courses

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### Abstract

This article proposes the use of online discussion board-based writing exercises that compare and contrast specific paired readings to enhance the distance learning experience. After examining the background of active learning and the use of asynchronous discussions, specific techniques from current graduate level management courses show how faculty members can create informative conversation threads that utilize existing course related literature and provide the students with opportunities to learn and reinforce deeper understanding of the course topics. The suggested method involves pairing specific faculty selected reading assignments and requiring student participation in graded asynchronous discussions. Results from student feedback comments report very high satisfaction, and supports previous research on epistemological and social aspects of online teaching strategies. Stated learning objectives can be achieved using collaborative techniques such as comparative reading assignments throughout the course term, as part of a multiple assessment methodology.

**Keywords:** active learning, collaborative learning; comparative reading; distance learning; online teaching, student engagement, asynchronous discussion.

### Introduction

As faculty members and educational leaders continue to grapple with the multitude of changes in education and society today, new opportunities for facilitating online learning are emerging. Aspects such as the increased growth in distance learning enrollment, changing student demographics that increasingly include adult learners, expectations that faculty engage learners more actively, and omnipresent instructional technology usage have combined to create strong pressures that educational courses use more than traditional lectures and examinations. Even the relatively widespread use of case studies, simulations, role-playing and other active learning techniques to the educational repertoire have not diminished the continued need for even newer and ever-improving strategies for engaging learners today. In addition, educational institutions and faculty are faced with an increased overall demand for online distance learning courses and programs, encouraged largely by expanding competition, new teaching opportunities and strategies, increased research about distance education, reaching diverse more diverse audiences, and educational globalization (Ferdig & Dawson, 2006; Frank, 2000; Howell, Williams, & Lindsay, 2003). Consequently, this article seeks to explore the background of active learning theories and propose a particular active learning technique using two books that can be called comparative reading discussions. The article begins with a review of the literature to explore background and rationale to establish a conceptual framework of instructional approaches for online courses. The author of the article then proposes a teaching technique that has been used in nine graduate business course sections, and reports student feedback regarding the experience. This proposed tool is not recommended to be the only learning and assessment technique that faculty members should use in distance learning courses. Ideally, this approach is part of a

comprehensive pedagogical strategy used by faculty members to engage students in an active learning format in online courses that encourages students to become deeply involved in their learning experience. Other elements can and probably should include regular faculty-led discussions, online exams, writing assignments, and simulation/gaming where appropriate for the goals and stated course learning objectives. At this point, it is important to understand the background and importance of active learning in education today and how comparative reading discussions can be leveraged for courses and programs.

## Background and Rationale

Distance learning is having a profound effect on the education field, particularly in the planning, organizing, marketing, supporting, and delivery of post-secondary programs (Howell et al., 2003; Katz, 1998; Lamb, 2000; Lentell & Peraton, 2003; Watts, 2003). These effects often influence faculty members' course preparation, teaching style, technical knowledge, and contact hours. The online instructional methodologies are becoming more learner-centered, non-linear, and self-directed instead of the traditional model where the teacher is merely a transmitter of knowledge to the student such as through lecture and testing. This coincides with the many traditional campus-based active learning strategies that have become increasingly popular in recent years (Bonwell & Eison, 1991; Meyers & Jones, 1993; Sutherland & Bonwell, 1996). Active learning is commonly described as a teaching technique that connects students effectively in the education method (Prince, 2004). Fundamentally, active learning involves students in performing important educational activities and reflecting on their actions (Bonwell & Eison, 1991). This approach places the responsibility for understanding on the students who are learning (Barak, Lipson, & Lerman, 2006; Keyser, 2000; Niemi, 2002) and enables a broad variety of learning modes in students. It has been stated that directing students to actively decipher questions, discuss what they have learned, and contemplate their thoughts is very valuable for effective instruction and educational outcomes.

New preparation for online courses combined with the increasing expectations by students and institutions for active learning are encouraging faculty members to consider additional techniques and approaches to use in their syllabi. Active learning has been criticized as being especially challenging for courses that have very large enrollments, but is nonetheless necessary to nurture dialogical methods and enable large courses to appear smaller for students (Mattson, 2005). Faculty members are now seeking to create noteworthy encounters in their courses, and use more facilitation or demonstration instead of traditional collegiate lecturing (Levin & Ben-Jacob, 1998). Part of this evolution in the student-faculty relationship is the willingness and ability of the instructor to concentrate on the arrangement and direction of the learning process, and then move aside to allow the students the opportunity to conduct discussions intelligently and more independently. This perceived change of role can be challenging for some faculty members, especially those who may have many years of experience in the more traditional teaching styles that were less focused on active learning methods. Although some argue that this is a false premise for success because skilled faculty are the true key for effective online learning (Markel, 1999). In addition, the growth and development of highly experienced faculty is still possible and can even be encouraged by departments and institutions with proper policies and organizational policies. (Alstete, 2000).

The literature on education and theories of instruction further explains how knowledge can be imparted to students using an objectivist or constructivist model (Hung & Chen, 1999), and that there are social dimensions to consider such as group or individual learning (Benbunan-Fich & Hiltz, 2003).

In the objectivist model, the ideas are certain and will be instructed directly to students for assimilation. Whereas the constructivist model is based on the notion that knowledge is created

by the student learners and that students can learn more effectively when they are involved in the discovery of knowledge rather than being merely instructed (Rovai, 2003). The concept of group-learning contains the premise that students can learn more when they participate in group activities, as opposed to individual learning. Important to note for reading this paper is previous research that specifically examines relationship between the aforementioned teaching approaches and student learning outcomes in online graduate business courses (Arbaugh & Benbunan-Fich, 2006). The research findings in that study reveal that there are significantly elevated results of apparent learning and student satisfaction with instructional method in courses that utilized objectivist methodology reinforced by collaborate learning procedures. Therefore it will be informative to examine if using a particular collaborate learning technique (such as the proposed comparative reading discussions) in a series of online graduate business courses will support the conceptual framework and findings in the previous study.

The collaborative learning approach, which is part of the relatively large movement toward active learning methods, are especially effective in distance learning courses (Bernard, Rubalcava, & St-Pierre, 2000; Levin & Ben-Jacob, 1998). Collaborative learning activities require students to work in teams or groups on the same assignment, reflecting collectively on concepts and resolving issues that are sometimes difficult to grasp. These approaches create a common vision and understanding among the learners, and with the use of distance learning instructional technology, the participants can be at different locations yet still be active in the collaboration. In fact, for some students who may be a bit more hesitant to speak or participate in traditional face-to-face classroom settings, the distance learning setup offers a level of perceived protection that can free their minds for engagement with less concern about shyness and awkwardness when speaking publicly or working collaboratively in person. In addition, using the actual process of collaborative learning is a valuable experience in itself because as students enter a world that is increasingly expecting lifelong learning, on-the-job training, retraining, and team-based work duties, their background and ability to function effectively in this kind of group-based communication activity is probably going to be leveraged many times throughout their careers and lives.

Collaborative learning and related styles of pedagogy involve a shift away from the learner as a passive recipient of information, and a correlated shift in the roles of faculty and students (Barr & Tagg, 1995; Levin & Ben-Jacob, 1998). In this schema, the student learners are required to take on a larger amount of duties and accountability for their learning, and not leave it entirely to the faculty members. The students actually develop into energetic examiners and researchers, taking the lead in collaboration with other students and allowing the faculty member to become more of a facilitator. The faculty member is no longer the sole repository of knowledge, and the students are no longer mere empty vessels that need to be filled. Instead, certain assumptions about the experience that students have and their abilities to learn are leveraged more fully in the collaborative learning strategy. There are examples and guidelines available in the educational literature on these approaches, and the techniques for distance learning often include the use of online web-page based discussion boards (Levin & Ben-Jacob, 1998). The faculty member often writes opening questions on these student discussion boards for the learners to read and then become actively involved in. The beginning questions start discussion threads that push or facilitate the students into taking a point-of-view on specific issues related to the course topics that are to be learned. Faculty members who use this approach often start new discussion topics periodically with specified beginning and ending dates. Students are expected to provide a minimal number of participatory comments in the discussion, and may be evaluated on the quality and quantity of their discussion participation by the faculty member.

In addition to general group-based collaborative learning, a particular active learning technique called “talk throughs” is worth examining because it reinforces the concepts behind student

elaboration on course topics (Simpson, 1994). The concept in this approach is that after readings have been assigned, students are directed to verbally present ideas that have been read so as to create deeper understanding and memory retention of the topics. Some of the educational and learning theories behind talk-through strategies are that selective allocation (the capacity to encode importance ideas), generation (converting and reorganizing data) and cognitive monitoring are enhanced by conducting a talk on specific themes (Einstein, Morris, & Smith, 1985; Simpson, 1994; Thomas & Rohwer, 1989). As students are forced to think aloud in a traditional classroom setting, it is understandable how they are stimulated into greater understanding, retention of the topics, and appreciation for material learned. However, since distance learning courses are largely conducted asynchronously and often not in a live synchronous format where this kind of talk-through strategy could be easily implemented, other approaches that leverage educational reinforcement concepts need to be used instead. Experienced faculty in these active and collaborative learning strategies have often found that to be effective, transparent instructions should be provided to students about what is expected, because the nonverbal nature of distance learning requires extra attention by faculty to infuse clarity and understanding. The use of paired reading exercises proposed in this paper suggests using collaborative discussions that require students to elaborate on their understanding of the readings could be a fundamental base tool for communicating and expanding the student learning.

Fundamentally, the use of comparative reading assignments involves Socratic questioning to promote critical thinking skills and deep exploration the course topics. This Socratic approach of using questions (although not specifically comparative paired reading assignments questions as proposed shortly) in asynchronous discussion forums has been investigated in previous research and results show that students demonstrate a higher level of critical thinking skills and maintained their critical thinking skills after exposure to Socratic questioning in asynchronous discussion boards (Yang, Newby, & Bill, 2005). Therefore, the use of active learning techniques such as Socratic questioning in collaborative online discussions can be a powerful tool for instructors to use.

## **Using a Comparative Reading Strategy**

Many collegiate textbook publishers today offer supplementary electronic materials for traditional and established college courses. These extremely useful content cartridges for the Blackboard/WebCT, textbook publisher tools, and other e-learning course management systems often provide solid instructional content in the form of course documents, presentations, discussion board topics (often with opening questions already posted), external links, quizzes, and other useful features. However, there are many specialized and advanced course topics for which readily made learning support materials such as this are not yet available, so faculty members are often required to create suitable content for these distance learning courses that use active learning strategies. This need can be somewhat challenging for busy faculty members, yet it can also offer the opportunity for instructional creativity and demonstration of faculty insight regarding the learning process. In addition, faculty members may wish to expand beyond the standard textbook content to emphasize aspects they believe are important for achieving stated learning objectives.

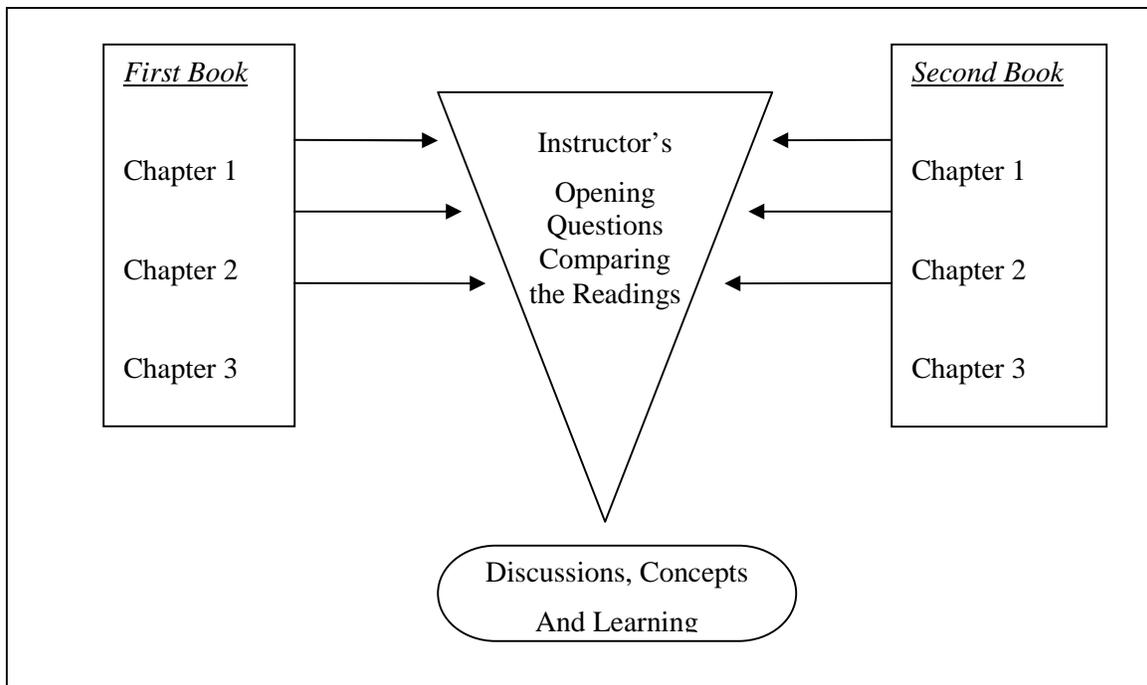
The author of this article has had experience teaching over 50 distance learning courses from 2000 to 2007 in the management department at a medium-sized private college in the New York metropolitan area. These courses were at both the undergraduate and graduate level (MBA) and used the Blackboard e-learning system, in the Fall, Winter, Spring trimesters and two Summer sessions. The comparative reading assignments discussed management here were implemented primarily in nine sections of three advanced graduate level courses on the following topics: 1) Knowledge Management; 2) Managing Business Complexity; and 3) Competitive Intelligence.

These are upper-level electives in a respected internationally accredited graduate management program, and the student body is typically mid-level managers who are employed full-time. However, this primarily part-time MBA program also enrolls a mixture of recent college graduates, experienced corporate employees, and visiting students (particularly in the distance learning courses which often attract outsiders) who are from other institutions.

The first step in creating an effective distance learning experience using collaborative techniques such as the comparative reading assignments is to decide upon the course learning objectives. Once the goals have been set, the faculty member can then write the syllabus, select the required readings and prepare the course outline that seeks to achieve these objectives using the best tools and techniques that are available. This faculty member chooses to use a multiple assessment strategy in online courses, which includes required weekly discussions (asynchronous), quizzes, and separate individual writing assignments such as article/book reviews and research papers. Official student feedback from end-of-semester evaluation forms has been very positive, and the learning objectives are achieved using the multiple approach with some variability depending on the course topics and nature of the student body. It should be noted here that advanced graduate electives are normally enrolled with students who are seeking in-depth learning on these very specialized topics, and this self-selection may have some impact on the student performance and learning outcomes. Yet this should probably not preclude the comparative reading assignments for undergraduate or other graduate courses, particularly if there is proper course planning and effective assignment direction provided by the instructor.

As part of the syllabus creation, the faculty member must choose appropriate reading assignments and/or textbooks for the courses. This is a critical decision step in the preparation of collaborative learning strategies such as comparative readings. Readings and textbooks can be chosen that are similar or quite different in style, content, and reading-level. For the purpose of effective comparative reading assignments this faculty member has found that using books and readings with clear differences in style and content perspective can yield better results. This is because students are encouraged to openly discuss the differences in not only the subject matter, but the way in which the authors treat the subject matter and the way topics are presented in the books. These discussions about and around the topics of learning help solidify the understanding and retention of these advanced topics, and provide useful forums for very interesting and informative discussions by students. Figure 1 shows an illustration of a typical two-part comparative reading structure for a course with two textbooks. The book chapters form the basis for the opening discussion thread questions by the instructor each week, and the students are often asked to explain the differences and/or similarities in the various chapters.

Aside from explaining the differences and similarities in the book chapters, students are also sometimes asked elaborate on one or more topics from certain chapters and then carry on the discussion using concepts from the second book readings (see example opening questions below). The resulting active discussion can become quite lively and engaging, and students are evaluated on the both the quantity and quality of their comparative reading postings. In a typical course with 10 to 20 students, the assignment typically calls for two to three substantive comments posted over the week-long discussion period. Therefore, if the faculty members posts three or four opening question thread discussions for a set of readings, the students are required to write between six and twelve postings during the discussion period. Posting on only one day, or only late the weekly time period, will result in a lesser grade for the student. This strategy strongly encourages the students to become very actively involved from the outset and throughout the learning period of each discussion.



**Figure 1 – Comparative Reading Process Illustration**

To begin the discussions that examine specific paired reading assignments, instructors should consider the learning objectives, materials being reviewed, student abilities and number of students in the course. Learning modules can be created that divide the objectives into achievable targets that can be measured, and the individual paired assignments can then be appropriately structured. Book chapters, journal articles, academic papers, websites, and related documents could all be used to stimulate the comparative analysis by students, and this is where the instructor has great latitude in using intellectual creativity and judgment. Some examples of opening comparative reading assignment discussion threads are shown below. Note that the proper names below refer to specific books that are being used as textbooks in the courses, and the citation reference is normally not included on the course discussion board (since it is already stated on the course syllabus as required reading material) but is included here as a formality for proper documentation of secondary sources in this paper:

- After reading the first chapter of both Tiwana (Tiwana, 2001) and McElroy (McElroy, 2003), what are your initial thoughts on their approaches to KM, and how they are similar and how do they differ?
- Do you see a relationship between McElroy's Knowledge Life Cycle and Tiwana's 10 Step Knowledge Road Map? If so, where? or Why not?
- McElroy's Chapter 9 seems to have concepts that can and probably should be considered in approaching KM as Tiwana recommends in his Chapter 9 on staffing. How can Tiwana's approach to designing the KM team use McElroy's Learning Drive and PSM Approaches. Explain your thoughts on this.
- What similarities and differences do you see in Gharajedaghi's (Gharajedaghi, 2006) Chapter 1 "How the Game is Evolving" and Mitleton-Kelly's (Mitleton-Kelly, 2003) principles of complex evolving systems (CES) in Chapter 2?

Once these opening questions have been posted in the discussion board by the instructor, students will typically begin answering the questions slowly at first. The instructor may intervene in the discussion to assist and guide the discussion forward. Since the students are specifically directed by the instructor to not repeat other students' comments, but to engage in informative conversations about the thread topics with other students, the ensuing discussions then become quite involved. Students are directed on the syllabus and course website system to write informative and reasoned comments that expand the conversations, and not merely answer the opening question posted by the instructor or to just write "I agree" as responses to other students. The faculty member provides rapid feedback by posting grades on the online gradebook shortly after each weekly discussion is completed. At the end of the course, students in several sections (four) of the courses examined in this paper were asked for the feedback about the comparative reading assignment technique. Overall results were very positive, with 84 percent of the students reporting affirmative learning experiences supplemented with interesting insights about their participation in the course. Some selected examples of student feedback from completed courses on knowledge management and managing complexity in business concerning the strengths and challenges of using comparative readings are as follows:

"The two readings, though different, helped (me) to get a more well-rounded picture when it came to Knowledge Management. Some people preferred one book over the other. I think it was very unique and useful to see the same topic described differently. One problem I saw is not getting into one of the books and relating to it. As I stated before I was nervous about this class in the beginning but enjoyed it very much." N.P.

"From my point, the course and the subject of KM were quite difficult and challenging itself, so the reading of two different books, with two very different approaches, thoughts, perspectives, etc. gave me the better understanding. It became more realistic, rather than just theoretical. They were - to me - fulfilling each other's gaps, complementary." M.T.

"The advantages of reading both books with two quite different perspectives are that it allows us to see and understand both authors' opinions on the subject. It also helped me at times that one's point of view would complement or clarify a point that wasn't completely clear by the other author. Throughout the course I was glad to have both books in hand because it definitely gave me and probably the class a broader view of the subject and different approaches to KM. I don't see any problems at all with having the comparative reading technique. I think it only benefits the student's learning process and again it enhances the material and the overall goal of the class. I thought it was a very dynamic class and your constant participation in the discussion boards helped the course to flow more fluently." C.B.

"At first I wasn't enjoying the comparative reading technique because it made the initial part of the course difficult as far as keeping up on readings and material. As the course moved on I began to use both books as a tool to better understand the material covered in the discussion boards. Instead of just having one source of concrete material to use towards the course, we had two and I believe it definitely helped in the material provided and the topics brought up in the discussion boards. The answers varied as well as the opinions and it was definitely easier than in the past to start up a discussion on the board. Sometimes opinions and materials from the books would cross and some confusion was there, but most labeled their opinions and posts accordingly to either McElroy or Tiwana." W.M.

"I think the discussion boards for the readings provide an exchange of ideas and interpretations of the material. It also allows the students to discuss the concepts discussed in the text and how it has been used in the workplace. There have been points

that I may not have picked up in the readings that other students have discussed on the message boards. This has greatly enhanced my learning experience through this course. I think the major challenge of the class structure is that students have to be extremely disciplined and manage their time well in order to get the most of the course (which the students in this class did very well based on the interesting posts throughout the course). For me personally, those courses that are the most challenging, turn out to be the most rewarding in the end.” G.G.

Some of the other positive student comments included some qualification that there were concerns or disadvantages to using the comparative reading strategy approach. Those who students commented in this way also stated that overall they were very satisfied with the experience and were therefore tabulated as positive in the count for this research. However, not all students reported overall positive feedback regarding the use of comparative readings in their course:

“Speak for yourself! I was overwhelmed by the amount of material that we had to read, it was for me, way too much demanding and McElroy's writing, simply put, very scholarly, as he clearly has grasped the English language. For me a chore.” K.P.

“I guess I should start by saying both books were very difficult to read when in the beginning of the class I had no idea what KM was. Comparing the books is very difficult because the styles were fairly different and while some parts did overlap, they were not in parallel chapters. I think I would prefer to have not done the comparative readings, but instead be asked a thought provoking question on each chapter and have to relate to situations we have encountered in our academic and professional experiences.” M.R.

Nevertheless, using two books can improve the course learning experience and does more than offer students differing perspectives on course content. Students reported that the comparative discussion facilitates informative conversations with others about the differences between the authors, and elaborates different perceptions by students about the readings as well. In advanced courses, the readings are often difficult for students to independently grasp, particularly without in-person contact in a traditional classroom setting with peers and the instructor. Therefore the comparative reading strategy can be an especially valuable tool for online learning, and the findings from the examples in this paper support the previous research on objective group-oriented teaching approaches (Arbaugh & Benbunan-Fich, 2006).

Although these are only selected examples and show the overall positive feedback that was provided publicly in several final week course ending discussions, they are generally indicative of the more comprehensive course evaluations that are performed anonymously and confidentially at the completion of each course. In those official feedback documents, the course evaluation results are only supplied to the faculty member once the official grades have been recorded. Again, those other responses also showed positive student feedback on this learning experience. More importantly, the faculty member found that student performance on regular quizzes and individual writing assignments such as article/book reviews and traditional research papers appear to have been enhanced by the use of comparative discussions throughout the course term. By requiring students to actively discuss, debate, and elaborate on complex topics in the discussions, faculty member can facilitate deeper learning of important topics that are chosen for instruction. This approach is supportive and complementary of the other active learning techniques examined in the previous section, such as the collaborative learning strategies, Socratic questioning, and talk-throughs. Faculty members can decide the best approach for using these tools depending on the course topics, learning objectives, study body characteristics, faculty interests, and other factors.

## Conclusion

There are many advantages of using comparative paired reading assignments including greater student involvement, active learning strategy diversification, and overall enhanced learning. When students are engaged with others, either in small student groups or with the class as a whole, they are thereby encouraged directly and indirectly to read the specific assignments periodically, and communicate their understanding and thoughts about the material in an intelligent and informative manner. Student peer influence can support and enhance faculty directions on course assignments, and push the students to new levels of engagement. Experienced students in advanced courses may be especially prone to weariness from repeated styles of teaching assignments, and new approaches that encourage dialogue can assist them in maintaining energy and enthusiasm for the learning process. Faculty members as well, often need additional experiences in their professional endeavors to help maintain professional satisfaction and personal rewards. This author believes that understanding and implementing active learning methods are not only effective in achieving increased student learning and engagement, but are actually intellectually stimulating, professionally rewarding, informative and enjoyable for both students and the instructor. Thoughtful dialogue that is created and facilitated by faculty members and leveraged by their expertise is one additional method to support faculty growth. The general quest by institutions, academic departments, and individual faculty members for engaging and flexible teaching approaches will continue to be expanded as distance learning becomes more common. Therefore comparative paired reading assignments will probably become just one more tool in a useful repertoire of effective syllabi techniques that are available.

## References

- Alstete, J. W. (2000). *Post-Tenure Faculty Development* (Vol. 27). San Francisco: Jossey-Bass.
- Arbaugh, J. B., & Benbunan-Fich, R. (2006). An Investigation of Epistemological and Social Dimensions of Teaching in Online Learning Environments. *Academy of Management Learning & Education*, 5(4), 435-447.
- Barak, M., Lipson, A., & Lerman, S. (2006). Wireless Laptops as Means for Promoting Active Learning in Large Lecture Halls. *Journal of Research on Technology in Education*, 38(3), 245-263.
- Barr, R. B., & Tagg, J. (1995). From Teaching to Learning -- A New Paradigm for Undergraduate Education. *Change*, 27(6), 13-25.
- Benbunan-Fich, R., & Hiltz, S. R. (2003). Mediators of the effectiveness of online courses. *IEEE Transactions on Professional Communication*, 46(4), 298-312.
- Bernard, R. M., Rubalcava, B. R. d., & St-Pierre, D. (2000). Collaborative Online Distance Learning: Issues for Future Practice and Research. *Distance Education*, 21(2), 260-277.
- Bonwell, C. C., & Eison, J. A. (1991). Active Learning: Creating Excitement in the Classroom. Retrieved May 1, 2002, from [www.ed.gov/databases/ERIC\\_Digests/ed340272.html](http://www.ed.gov/databases/ERIC_Digests/ed340272.html)
- Einstein, G. O., Morris, J., & Smith, S. (1985). Notetaking: Individual Differences, and Memory from Lecture Information. *Journal of Educational Psychology*, 77, 522-532.
- Ferdig, R. E., & Dawson, K. (2006). Faculty Navigating Institutional Waters: Suggestions for Bottom-up Design of Online Programs. *TechTrends: Linking Research and Practice to Improve Learning*, 50(4), 28-34.
- Frank, T. (2000, October). Universities Compete for a Presence Online. *University Affairs*, 10-14.

- Gharajedaghi, J. (2006). *Systems Thinking: Managing Chaos and Complexity* (2nd ed.). Burlington, Massachusetts: Butterworth-Heinemann.
- Howell, S. L., Williams, P. B., & Lindsay, N. K. (2003). Thirty-two Trends Affecting Distance Education: An Informed Foundation for Strategic Planning. *Online Journal of Distance Learning Administration*, 6(3).
- Hung, D. W. L., & Chen, D.-t. (1999). Technologies for implementing social constructive approaches in instructional settings. *Journal of Technology and Teacher Education*, 7(3), 235-256.
- Katz, R. N. (1998). *Dancing with the Devil: Information Technology and the New Competition in Higher Education*. San Francisco: Jossey-Bass.
- Keyser, M. W. (2000). Active learning and cooperative learning: Understanding the difference and using both styles effectively. *Research Strategies*, 17(1), 35-44.
- Lamb, A. C. (2000). Ten Facts of Life for Distance Learning Courses. *TechTrends: Linking Research and Practice to Improve Learning*, 44(1), 12-15.
- Lentell, H., & Peraton, H. (Eds.). (2003). *Policy Issues for Open and Distance Learning*. Oxford: Routledge.
- Levin, D. S., & Ben-Jacob, M. G. (1998). *Using Collaboration in Support of Distance Learning*. Paper presented at the WebNet 98 World Conference of the WWW.
- Markel, M. (1999). Distance Education and the Myth of the New Pedagogy. *Journal of Business & Technical Communication*, 13(2), 15.
- Mattson, K. (2005). Why "Active Learning" Can Be Perilous to the Profession. *Academe*, 91(1), 23-26.
- McElroy, M. W. (2003). *The New Knowledge Management: Complexity, Learning, and Sustainable Innovation*. Burlington, MA: Butterworth-Heinemann.
- Meyers, C., & Jones, T. B. (1993). *Promoting Active Learning*. San Francisco: Jossey-Bass.
- Mitleton-Kelly, E. (Ed.). (2003). *Complex Systems and Evolutionary Perspectives on Organisations: The Application of Complexity Theory to Organisations*. Kidlington, Oxford: Pergamon.
- Niemi, H. (2002). Active Learning-- a cultural change needed in teacher education and schools. *Teacher and Teacher Education*, 18(8), 763-780.
- Prince, M. (2004). Does Active Learning Work? A Review of the Research. *Journal of Engineering Education*, 93(3), 223-231.
- Rovai, A. P. (2003). A constructivist approach to online college learning. *The Internet and Higher Education*, 7(2), 79-93.
- Simpson, M. L. (1994). Talk Throughs: A Strategy for Encouraging Active Learning Across Content Areas. *Journal of Reading*, 38(4), 296-304.
- Sutherland, T. E., & Bonwell, C. C. (1996). *Using Active Learning in College Classes: A Range of Options for Faculty*. San Francisco: Jossey-Bass.
- Thomas, J. W., & Rohwer, W. D. (1989). *Hierarchical Models of Studying*. Paper presented at the American Educational Research Association.
- Tiwana, A. (2001). *The Essential Guide to Knowledge Management*. Upper Saddle River, NJ: Prentice Hall PTR.

Watts, M. M. (Ed.). (2003). *Technology: Taking the Distance out of Distance Learning* (Vol. 94). San Francisco: Jossey-Bass.

Yang, Y.-T. C., Newby, T. J., & Bill, R. L. (2005). Using Socratic Questioning to Promote Critical Thinking Skills Through Asynchronous Discussion Forums in Distance Learning Environments. *The American Journal of Distance Education*, 19(3), 163-181.

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