

Assessing Teaching Presence in Computer Conferences

- A Research Proposal -

Su Tuan Lulee

February 2008

Educational Technology Department

San Diego State University

Purpose

Two reasons the researcher begins a research on instructor control in virtual environment of higher education. Firstly, the researcher intends to examine the categories and indicators of instructor control concluded by previous researches. Do educators lay special emphasis on particular function? Have the functions been organized into a hierarchical order while the course unfolding? Secondly, to develop an optional tool that is capable of assessing instructor control in computer-mediated online courses of higher education using system dynamic model.

The researcher hopes that this will facilitate the larger goal of improving the quality of teaching and learning using web as medium.

Main Idea - Theoretical Framework & Previous Researches

Theoretical framework of the study is derived from following two studies. In Moore's transactional distance theory (1980), transactional distance is defined by the relationship between the instructor and the learner. Two key variables affecting perceptions of distance are dialog and structure. Moore's study implied that a balance of these two variables would enhance transactional presence, reduce teacher-learner distance and improve the quality of learning.

What is the exact meaning of balance between structure and dialogue? How can the level of structure and dialogue be measured? Saba and Shearer (1994) verify Moore's theory by conducting a controlled experiment that illustrates the dynamic relationship between structure and dialog. Two variables, learner control and instructor control, are added to their study for measuring structure and dialogue. In addition, an instrument expanded from Amidon and Flanders's Interaction analysis system is used to code transcripts during discourse analysis

(see Figure 1 and Figure 2). The study takes the element of time into consideration, records the dynamic function of structure and dialog, and makes transactional distance measurable.

Studies related to measurement of transactional distance continue. More studies have raised other research questions and discussed their findings. Among them, Garrison, Anderson, and Archer's community of inquiry model (2001) that illustrates the multifaceted components of teaching and learning is noticeable one. In their analyzing learning transactions in computer-mediated conferencing, they further defined transactional presence into cognitive presence, social presence, and teaching presence. In order to measure these presences, they identify ten categories and forty-five indicators. Example expressions for all indicators are provided (see Figure 3, 4, and 5). The tool has been tested and reported to be reliable, efficient, and practical.

Both Saba and Shearer and Garrison, Anderson, & Archer's researches have been widely cited (Google Scholar search, 2008). The former takes the element of time into consideration. They pioneer the system dynamic model of empirical study in education research. The coding system they used is based on a matrix that has been using for many years. The later adopts a quantified content analysis. The coding system they developed is explicit and easy to implement. Both coding system take similar view but with different level of detail.

Is it possible to integrate the best of both approaches? An optional tool that presences the factors that affect the dynamic relationship between transaction distance, structure, and dialog. Only when factors behind the outcomes are specific, the theory becomes worthwhile because the theory now have a bridge to connect it to practice.

Due to limitation of time and resource, the current study will focus only on instructor control that Saba & Shearer (1994) referred to or teaching presence that Anderson, T., Rourke, L., Garrison, D. R., and Archer, W. (2001) advocated. The study will deal with the discourse from instructors to examine the different categories and indicators existed in previous

researches; and to find out the differences in type of instructor control that delivered through discourse in different graduate level online courses.

The researcher will analyze factors under instructor control of two online text-based courses using discourse analysis method. The results will then be discussed.

Objectives of the research

In the paper, the researcher intends to examine the variable that is under the control of instructors in a text-based computer-mediated asynchronous distance course for higher education.

Purposes of the study are to answer following questions:

1. Have categories and indicators suggested by previous researchers covered all characteristics of instructor controls?
2. Are there patterns existed in instructor control during computer- mediated teaching in formal education? (e.g., “Have instructors laid special emphasis on particular functions?”; “Have the instructors presented a pattern that has been a problem?”)

Methodology

The research is to take the following approach:

- Identify variable, generated by Flanders (1967), Saba & Shearer (1994), and Anderson, T., Rourke, L., Garrison, D. R., and Archer, W., (2001).
- Gather sample courses, text-based online courses
- Define unit of analysis
- Construct a coding frame – categories, indicators, rules
- Assess reliability of coding process
- Analyze data and use for statistical display and analysis

Bibliography

- Anderson, Terry; Rourke, Liam; Garrison, D. Randy; Archer, Walter. (2001). Assessing Teaching Presence in a Computer Conferencing Context. *Journal of Asynchronous Learning Networks*, 5(2). Retrieved February 19, 2008, from <http://communitiesofinquiry.com/files/Teaching%20Presence.pdf>
- ISEE Systems Inc. STELLA Case Studies. Retrieved February 20, 2008, from <http://www.iseesystems.com/resources/casestudies/stella.aspx>
- Maas, K. F. (2008). Flanders' Interaction Analysis Categories (FIAC). Retrieved February 20, 2008, from http://www.kfmaas.de/lSpr_fia.html
- Gagne, R. M., Biggs, L. J., & Wager, Walter W. (1992). *Principles of Instructional Design*. Shanghai: East China Normal University Press; Wadsworth Publishing.
- Garrison, D. Randy; Anderson, Terry; Archer, Walter. (2000). Critical Inquiry in a Text-Based Environment: Computer Conferencing in Higher Education. *The Internet and Higher Education*, 2(2-3), 87-105. Retrieved February 19, 2008, from http://communitiesofinquiry.com/files/Critical_Inquiry_model.pdf
- Moore, M. G. (1980). Independent Study. In *Redefining the Discipline of Adult Education*. In R. Boyd and J. Apps, eds. Jossey-Bass (pp. 16-31). Retrieved February 21, 2008, from http://www.ed.psu.edu/acsde/pdf/independent_study.pdf
- Rourke, Liam; Anderson, Terry; Garrison, D. Randy; Archer, Walter. (2001). Methodological Issues in Analysis of Asynchronous, Text-Based Computer Conferencing Transcripts.

International Journal of Artificial Intelligence in Education, 12(1), 8-22. Retrieved February 18, 2008, from <http://communitiesofinquiry.com/files/MethPaperFinal.pdf>

Saba, F. (2007). Postmodern Theory of Distance Education. In *Distance Education Systems of the Future*. Handout of EDTEC 650 course. Retrieved February 19, 2008, from http://edweb.sdsu.edu/courses/ET650_OnLine/CR/0006-Chapter6-PostModernTheory.pdf

Saba, F.; Shearer, R. L., F. (1994). Verifying Key Theoretical Concepts in a Dynamic Model of Distance Education. *The American Journal of Distance Education*, 8(1). Retrieved February 19, 2008, from http://edweb.sdsu.edu/Courses/ET650_OnLine/saba_shearer1994.htm

Appendix

Minutes	1	2	3	4	30
Active					
Request					
Claritive					
Elaborate					
Information					
Declaration					
Concept					
Example					
Procedure					
Principle					
Elaboration					
Clarification					
Questions					
Inquisitive					
Claritive					
Directive					
Corrective					
Pace Pause					
Passive					
Response to					
Guidance					
Request					
Direction					
Information					
Comm. Maintain. Pause					
Response (Affirm./Neg.)					
Pause					

Figure 1 Categories for learner discourse analysis (Saba & Shearer, 1994)

Minutes	1	2	3	4	30
Direct					
Guidance					
Advance Organizer					
Comm. Maint.					
Directions					
Request					
Information					
Declaration					
Concept					
Example					
Procedure					
Principle					
Elaboration					
Clarification					
Questions					
Inquisitive					
Claritive					
Directive					
Response					
Supportive					
Directive					
Corrective					
Pace Pause					
Indirect					
Guidance					
Questions					
Inquisitive					
Claritive					
Elaborative					
Response					
Inquisitive					
Supportive					

Figure 2 Categories for instructor discourse analysis (Saba & Shearer, 1994)

Indicators	Examples
Setting curriculum	"This week we will be discussing. . ."
Designing methods	"I am going to divide you into groups, and you will debate. . ."
Establishing time parameters	"Please post a message by Friday. . ."
Utilizing medium effectively	"Try to address issues that others have raised when you post"
Establishing netiquette	"Keep your messages short"

Figure 3 Indicators for coding category "Instructional Design and Organization" in teaching presence (Anderson, Rourke, Garrison, and Archer, 2001)

Indicators	Examples
Identifying areas of agreement/disagreement	"Joe, Mary has provided a compelling counter-example to your hypothesis. Would you care to respond?"
Seeking to reach consensus/understanding	"I think Joe and Mary are saying essentially the same thing"
Encouraging, acknowledging, or reinforcing student contributions	"Thank you for your insightful comments"
Setting climate for learning	"Don't feel self-conscious about 'thinking out loud' on the forum. This is a place to try out ideas after all."
Drawing in participants, prompting discussion	"Any thoughts on this issue?" "Anyone care to comment?"
Assess the efficacy of the process	"I think we're getting a little off track here"

Figure 4 Indicators for coding category "Facilitating Discourse" in teaching presence (Anderson, Rourke, Garrison, and Archer, 2001)

Indicators	Examples
Present content/questions	"Bates says...what do you think"
Focus the discussion on specific issues	"I think that's a dead end. I would ask you to consider..."
Summarize the discussion	"The original question was ...Joe said...Mary said...we concluded that...We still haven't addressed..."
Confirm understanding through assessment and explanatory feedback.	"You're close, but you didn't account for... ...this is important because..."
Diagnose misconceptions	"Remember, Bates is speaking from an administrative perspective, so be careful when you say..."
Inject knowledge from diverse sources, e.g., textbook, articles, internet, personal experiences (includes pointers to resources)	"I was at a conference with Bates once, and he said...You can find the proceedings from the conference at http://www.... "
Responding to technical concerns	"If you want to include a hyperlink in your message, you have to ..."

Figure 5 Indicators for coding category "Direct Instruction" in teaching presence (Anderson, Rourke, Garrison, and Archer, 2001)