Relationships Between Interactions and Learning
In Online Environments

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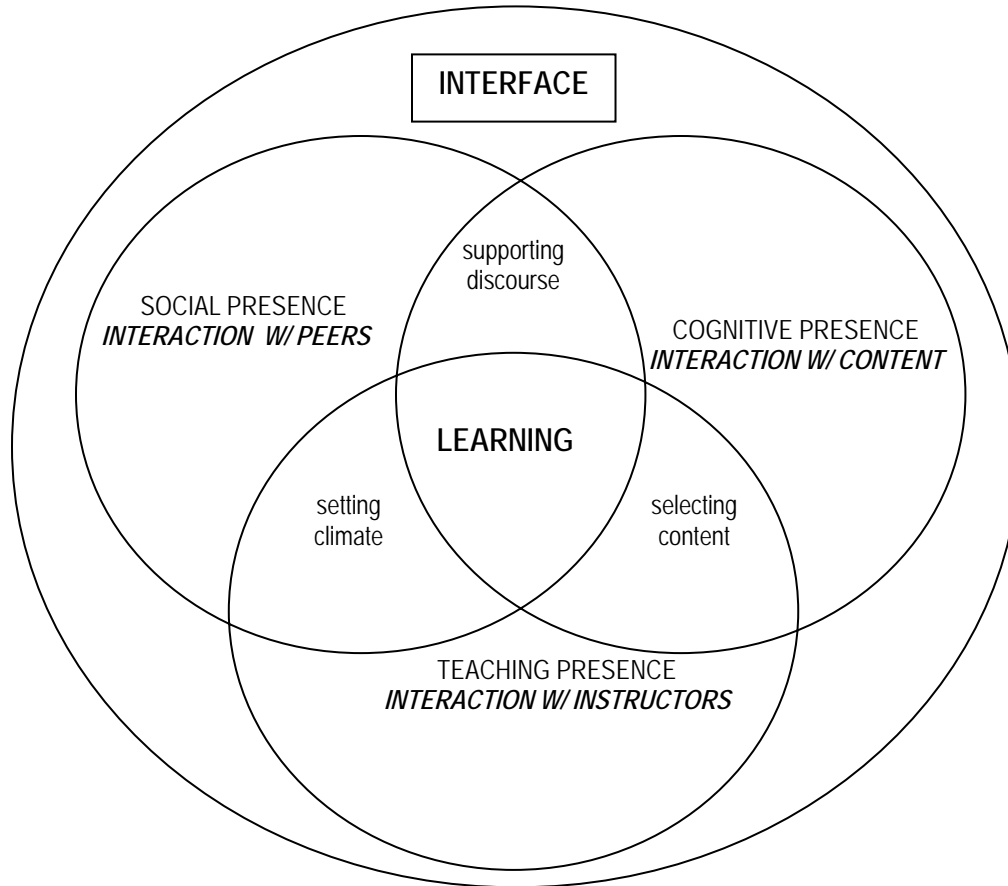# Relationships Between Interactions and Learning in Online Environments

SLOAN-C™

INTERFACE

supporting discourse

SOCIAL PRESENCE
INTERACTION W/ PEERS

COGNITIVE PRESENCE
INTERACTION W/ CONTENT

LEARNING

setting climate

selecting content

TEACHING PRESENCE
INTERACTION W/ INSTRUCTORS

Figure adapted from Rourke, et al.'s (2001) Community of Inquiry Model

Research Finding	Implications for Practice
Learning Effectiveness: Interaction with Content	
Online discussion/learning may be more supportive of experimentation, divergent thinking, exploration of multiple perspectives, complex understanding, and reflection than F2F discussion. *(Parker and Gemino, 2001; Picciano, 2002)*	Encourage experimentation, divergent thinking, multiple perspectives, complex understanding & reflection in online discussion through provocative, open-ended questions, modeling, support and encouragement for diverse points of view. Develop grading rubrics for discussion participation that reward desired cognitive behaviors. Develop initial course activities to encourage the development of swift trust.
Online discussion/learning may be less supportive of convergent thinking, instructor directed inquiry, and scientific thinking than F2F discussion. *(Parker and Gemino, 2001; Picciano, 2002)*	Use other course activities to support these such as written assignments, one-on-one tutorials, small group collaboration and self-testing. Develop grading rubrics for discussion participation that reward desired cognitive behaviors.
Learning Effectiveness: Interaction with Instructors	
Teaching presence—design & organization, facilitating discourse & direct instruction—is linked to student learning. *(Shea et al., 2003)*	Highlight three elements of teaching presence in faculty development and provide examples of how to improve in each area. Provide ongoing support for instructors in each of these areas.
The quantity & quality of instructor interactions with students is linked to student learning. *(Jiang & Ting, 2000)*	Provide frequent opportunities for both public and private interactions with students. Establish clear expectations for instructor-student interactions. Provide timely and supportive feedback. Include topic of instructor interaction in faculty development.

	Automate testing and feedback when possible.
Ongoing assessment of student performance linked to immediate feedback and individualized instruction supports learning. *(Riccomini, 2002; Kashy, et al, 2003)*	Provide frequent opportunities for testing and feedback. Develop general learning modules w/ opportunities for active learning, assessment and feedback that can be shared among courses and/or accessed by students for remediation or enrichment.

Learning Effectiveness: Interaction with Classmates

Learning occurs socially within communities of practice; there is greater variability in sense of community ratings in online courses than in F2F courses. *(Gunawardena & Zittle, 1997; Brown, 2001; Haythornthwaite, 2002; Rovai, 2002)*	Design community-building activities. Model the use of cohesive immediacy behaviors in all interactions with students. Develop initial course activities to encourage the development of swift trust. Address issues of community in faculty development.
Verbal immediacy behaviors can lesson the psychological distance between communicators online; overall sense of social presence is linked to learning. *(Gunawardena & Zittle, 1997; Richardson & Swan, 2003; Swan, 2003)*	Develop initial course activities to encourage the development of swift trust. Model and encourage the use of verbal immediacy behaviors in interactions with students. Encourage students to share experiences and beliefs in online discussion. Introduce social presence and verbal immediacy in faculty development.
Student learning is related to the quantity and quality of postings in online discussions and to the value instructors place on them. *(Jiang & Ting, 2000)*	Make participation in discussion a significant part of course grades. Develop grading rubrics for discussion participation. Require discussion participants to respond to their classmates postings and/or to respond to all responses to their own postings. Stress the unique nature and potential of online discussion in faculty development.
Vicarious interaction in online course discussion may be an important source of learning.	Encourage and support vicarious interaction. Require discussion summaries that identify steps in the knowledge creation process. Use tracking mechanisms to reward reading as well as responding to messages.

Learning Effectiveness: Interaction with Course Interfaces

Interactions with course interfaces are a real factor in learning; difficult or negative interactions with interfaces can depress learning. *(Hillman, et al., 1994; Hewitt, 2003)*	Work with major platforms to improve interfaces to support learning. Develop consistent interfaces for all courses in a program. Provide orientations to program interfaces that help students develop useful mental models of them. Provide 24/7 support for students and faculty. Make human tutors available.
Patterns of interaction in online discussion are dictated as much by the flagging of unread notes and display of individual messages as by anything else. *(Hewitt, 2003)*	Explore new interfaces. Make students responsible for sustaining discussion threads. Make students summarize discussion threads. Require students to incorporate materials from the discussions in their assignments.
Better transfer of learning from narration and animation presented simultaneously, in conversational style, with irrelevant elements and on-screen text eliminated. *(Mayer, 2001)*	Present words in spoken form. Use both words and pictures simultaneously. Avoid extraneous video & audio. Do not add redundant on-screen text.
Better transfer of learning when components of concepts are addressed first, when organization is signaled, and when the pace of presentation is learner-controlled. *(Mayer, 2001)*	Begin presentations with descriptions of components and organization. Return or signal both often. Allow learners to control the pace of presentations.

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