Relationships Between Interactions and Learning In Online Environments

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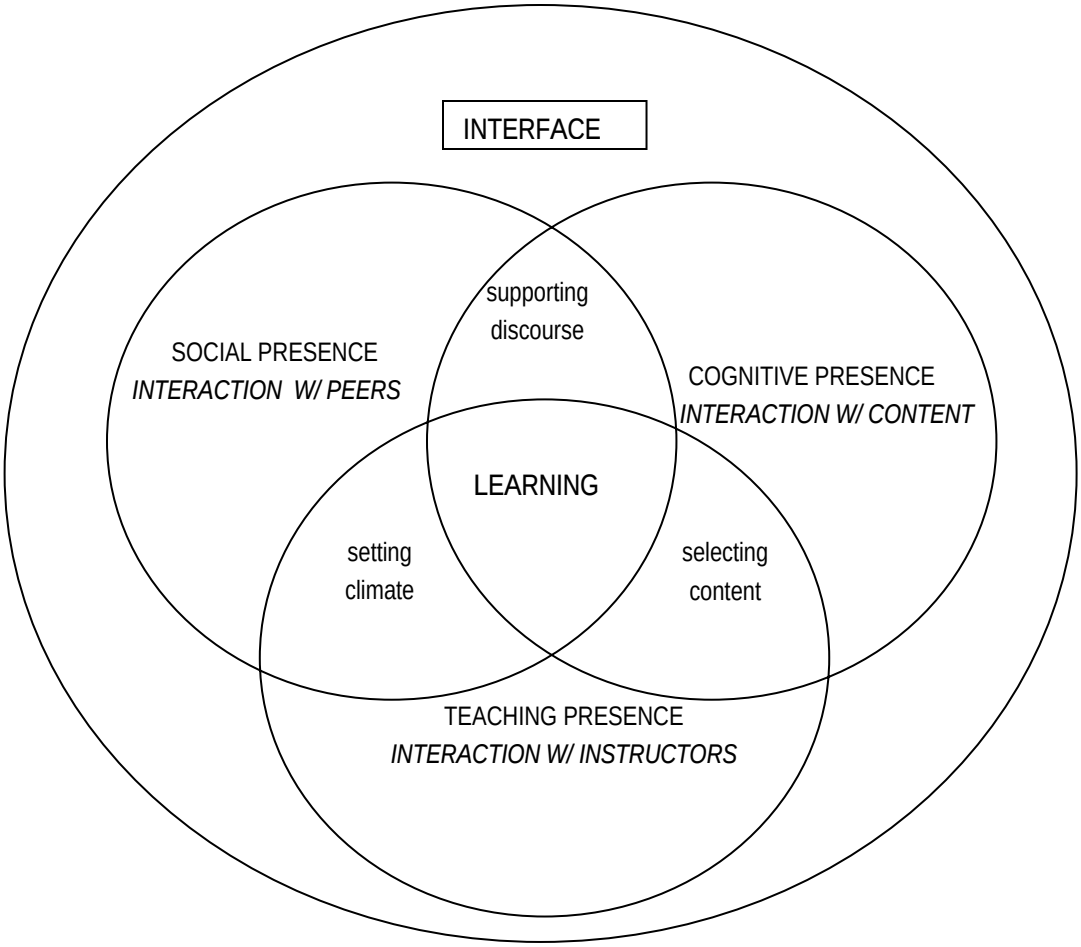

Relationships between Interactions and Learning in Online Environments (Adapted from Rourke, et al.'s (2001) Community of Inquiry Model)

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 & 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 & 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 & 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 & 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 & 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 & supportive feedback. Include topic of instructor interaction in faculty development.
Ongoing assessment of student performance linked to immediate feedback & individualized instruction supports learning. *(Riccomini, 2002; Kashy, et al, 2003)*	Automate testing & feedback when possible. Provide frequent opportunities for testing & feedback. Develop general learning modules w/ opportunities for active learning, assessment & feedback that can be shared among courses &/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 among 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 & encourage the use of verbal immediacy behaviors in interactions with students. Encourage students to share experiences & beliefs in online discussion. Introduce social presence & verbal immediacy in faculty development.
Student learning is related to the quantity & quality of postings in online discussions & 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 &/or to respond to all responses to their own postings. Stress the unique nature & potential of online discussion in faculty development.
Vicarious interaction in online course discussion may be an important source of learning from them.	Encourage & 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 as much dictated by the flagging of unread notes & display of individual messages as 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 & animation presented simultaneously, in conversational style, with irrelevant elements & 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, & when the pace of presentation is learner-controlled. *(Mayer, 2001)*	Begin presentations with descriptions of components & organization. Return or signal both often. Allow learners to control the pace of presentations.

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