

# Relationships Between Interactions and Learning In Online Environments

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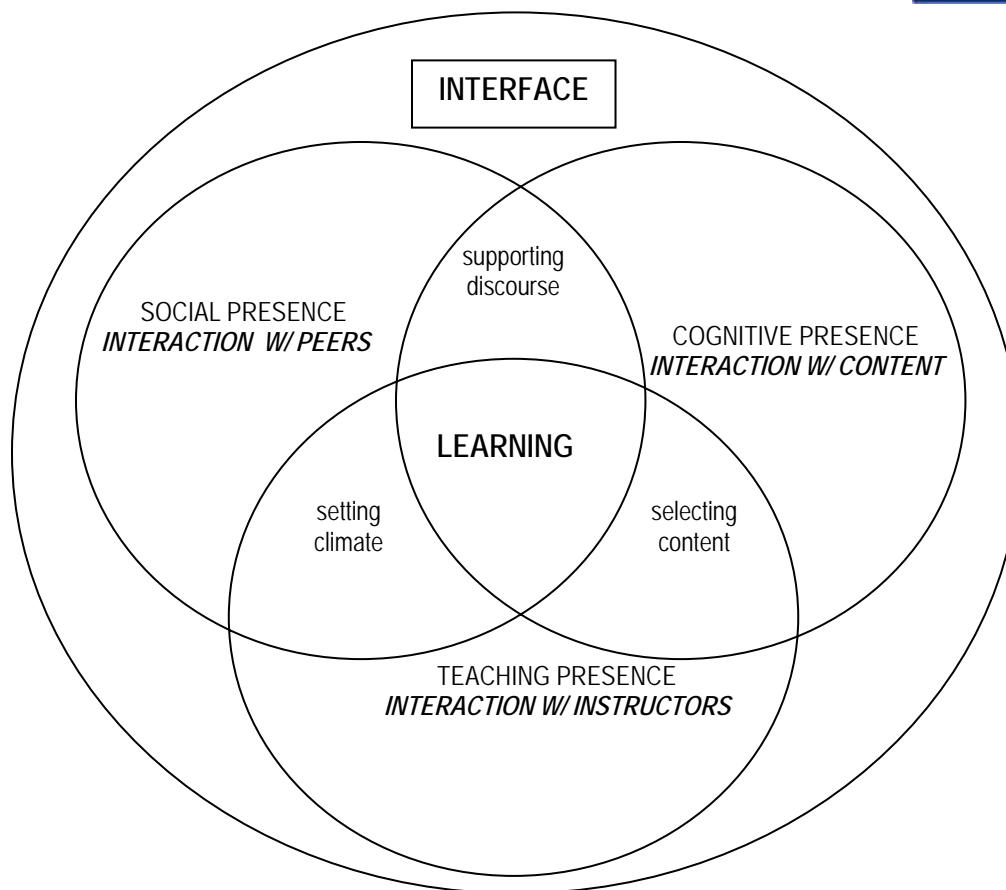


Figure adapted from Rourke, et al.'s (2001) Community of Inquiry Model

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

<p>Ongoing assessment of student performance linked to immediate feedback and individualized instruction supports learning.</p> <p><i>(Riccomini, 2002; Kashy, et al, 2003)</i></p>	<p>Automate testing and feedback when possible.</p> <p>Provide frequent opportunities for testing and feedback.</p> <p>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.</p>
<p>Learning Effectiveness: Interaction with Classmates</p>	
<p>Learning occurs socially within communities of practice; there is greater variability in sense of community ratings in online courses than in F2F courses.</p> <p><i>(Gunawardena &amp; Zittle, 1997; Brown, 2001; Haythornthwaite, 2002; Rovai, 2002)</i></p>	<p>Design community-building activities.</p> <p>Model the use of cohesive immediacy behaviors in all interactions with students.</p> <p>Develop initial course activities to encourage the development of swift trust.</p> <p>Address issues of community in faculty development.</p>
<p>Verbal immediacy behaviors can lessen the psychological distance between communicators online; overall sense of social presence is linked to learning.</p> <p><i>(Gunawardena &amp; Zittle, 1997; Richardson &amp; Swan, 2003; Swan, 2003)</i></p>	<p>Develop initial course activities to encourage the development of swift trust.</p> <p>Model and encourage the use of verbal immediacy behaviors in interactions with students.</p> <p>Encourage students to share experiences and beliefs in <b>online discussion</b>.</p> <p>Introduce social presence and verbal immediacy in faculty development.</p>
<p>Student learning is related to the quantity and quality of postings in <b>online discussions</b> and to the value instructors place on them.</p> <p><i>(Jiang &amp; Ting, 2000)</i></p>	<p>Make participation in <b>discussion</b> a significant part of course grades.</p> <p>Develop grading rubrics for <b>discussion</b> participation.</p> <p>Require <b>discussion</b> participants to respond to their classmates postings and/or to respond to all responses to their own postings.</p> <p>Stress the unique nature and potential of <b>online discussion</b> in faculty development.</p>
<p>Vicarious interaction in <b>online course discussion</b> may be an important source of learning.</p>	<p>Encourage and support vicarious interaction.</p> <p>Require <b>discussion summaries</b> that identify steps in the knowledge creation process.</p> <p>Use tracking mechanisms to reward reading as well as responding to messages.</p>
<p>Learning Effectiveness: Interaction with Course Interfaces</p>	
<p>Interactions with course interfaces are a real factor in learning; difficult or negative interactions with interfaces can depress learning.</p> <p><i>(Hillman, et al., 1994; Hewitt, 2003)</i></p>	<p>Work with major platforms to improve interfaces to support learning.</p> <p>Develop consistent interfaces for all courses in a program.</p> <p>Provide orientations to program interfaces that help students develop useful mental models of them.</p> <p>Provide 24/7 support for students and faculty.</p> <p>Make human tutors available.</p>
<p>Patterns of interaction in <b>online discussion</b> are dictated as much by the flagging of unread notes and display of individual messages as by anything else.</p> <p><i>(Hewitt, 2003)</i></p>	<p>Explore new interfaces.</p> <p>Make students responsible for sustaining <b>discussion threads</b>.</p> <p>Make students summarize <b>discussion threads</b>.</p> <p>Require students to incorporate materials from the <b>discussions</b> in their assignments.</p>
<p>Better transfer of learning from narration and animation presented simultaneously, in conversational style, with irrelevant elements and on-screen text eliminated.</p> <p><i>(Mayer, 2001)</i></p>	<p>Present words in spoken form.</p> <p>Use both words and pictures simultaneously.</p> <p>Avoid extraneous video &amp; audio.</p> <p>Do not add redundant on-screen text.</p>
<p>Better transfer of learning when components of concepts are addressed first, when organization is signaled, and when the pace of presentation is learner-controlled.</p> <p><i>(Mayer, 2001)</i></p>	<p>Begin presentations with descriptions of components and organization.</p> <p>Return or signal both often.</p> <p>Allow learners to control the pace of presentations.</p>