

# Pedagogical Design Factors That Enhance Learning in Hybrid Courses: A Contribution to Design-Based Instructional Theory

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## **ABSTRACT**

Our study develops a conceptual framework that integrates the theory of transactional distance with the community of inquiry framework. With data from six pilot hybrid courses in San Francisco State University's Master of Public Administration program, we apply the Blended Learning Distance Mediation (BLDM) framework to explore how technologically enhanced activities mediate transactional distance. The results support the theory of transactional distance and add insights about how technologically enhanced activities can create active learning environments that promote student success and satisfaction in hybrid courses. Low structure along with high levels of dialogue and learner autonomy helped promote student satisfaction. We conclude that the BLDM framework holds promise for design-based instructional theory development and merits systematic empirical testing. In the meantime, we provide practical implications for its use by instructors and program directors interested in hybrid pedagogy.

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## **KEYWORDS**

Hybrid course design, active learning, transactional distance, community of inquiry

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Public administration education has embraced new pedagogical strategies that foster active learning environments and encourage students to draw on a range of skills to solve problems. These pedagogies help faculty ensure that their students are getting a balanced mix of training in negotiation, collaboration, and network management, as well as the technical, social,

and analytical skills to succeed in public administration (Agranoff, 2008; Bingham, O'Leary, & Carlson, 2008; Neubauer, Hug, Hamon, & Stewart, 2011). Increasingly, those strategies involve technological solutions and are often used in hybrid course formats. The hybrid format combines online and face-to-face instruction (Babb, Stewart, & Johnson,

2010), requiring instructors to think in new ways about how technology-enhanced, online learning activities interact with more traditional activities to affect learning outcomes and student satisfaction. However, at present, there is little theory to help inform their thinking; learning in hybrid settings has been undertheorized compared to learning in traditional or purely online formats (Graham, 2013). This article aims to contribute to design-based instructional theory for blended learning pedagogy.

We build on work that examines how presence mediates transactional distance (TD; Shearer, 2013; Wheeler, 2007). We develop a conceptual framework that integrates the theory of transactional distance (Moore, 1991) with the community of inquiry (CoI) framework (Garrison & Vaughan, 2008). Using data from six pilot hybrid courses in San Francisco State University's Master of Public Administration (MPA) program, we use the CoI framework to explore how, or whether, technologically enhanced activities can be used to help convey presence and create balance among dialogue, autonomy, and structure. Our findings suggest that the framework, which we call the Blended Learning Distance Mediation (BLDM) framework, holds promise for research and pedagogical practice; it merits further systematic empirical testing and use.

### **THE BLENDED LEARNING DISTANCE MEDIATION FRAMEWORK**

Transactional distance and the community of inquiry are global theoretical frameworks that can lend insight into how elements of course design affect student satisfaction and performance (Garrison, 2012; Moore, 2013a). Both TD and CoI are concerned with reducing psychological distance in the learning context (Tolu & Evans, 2012). Yet there has been little exploration of how instructors can combine these frameworks to design courses to ensure strong performance and satisfaction in hybrid learning environments (Moore, 2013b; Wheeler, 2007). Satisfaction matters because it can promote student retention, improve performance, and enhance a program's reputation for delivering a relevant curriculum.

A community of inquiry is "a cohesive and interactive community of learners whose purpose is to critically analyze, construct, and confirm worthwhile knowledge" (Garrison & Vaughan, 2008, p. 9). Transactional distance is a perceived psychological distance and communications gap that creates space where misunderstandings between instructors and students can occur. It may be heightened where physical distance is also present, as with online and blended learning formats (Moore, 1991; Wheeler, 2007). Three key dimensions of TD are the structure of the teaching-learning program, dialogue (between teachers and learners and among learners), and learner autonomy (in deciding what, how, and how much to learn; Moore, 2013b, p. 68).

Structure refers to "the rigidity or flexibility of the course's educational objectives, teaching strategies, and evaluation methods" and "the extent to which a course can accommodate or be responsive to each learner's individual needs and preferences" (Moore, 2013b, p.70). Structure can involve the order or sequencing of events, time allotted to activities, the overall pace of the course, the range of information sources students can draw from, the learning objectives, and the assessment strategies (Shearer, 2013). Highly structured courses have high levels of transactional distance and are less responsive to the needs of individual learners. Loosely structured courses allow students to choose among different paths to achieve course objectives; these courses have low levels of transactional distance and respond better to student needs (Moore, 2013b).

Dialogue can decrease transactional distance. Shearer (2013) defines dialogue as "a subset of the communications between the student and the instructor that [can] lead to the construction of knowledge" (p. 252). Dialogue depends on the medium of communication, subject, teacher personality, learner ability to participate competently, and cultural and linguistic differences, but most important is the level of structure: highly structured courses are likely to have low dialogue (Moore, 2013b, p. 70). In TD theory, dialogue has important qualitative

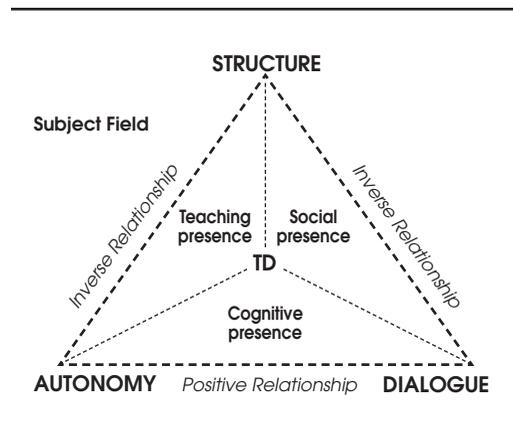
dimensions; it is a constructive, synergistic exchange of words and/or symbols between teachers and learners where teachers instruct learners and then engage in an exchange that promotes learning (Moore, 1991, pp. 3–4).

Autonomy is a fuzzier construction in TD theory, sometimes referring to power, control, or rigidity and at other times flexibility (Kanuka, Collett, & Caswell, 2002, p. 165). Autonomy may be construed as a characteristic of learners that instructors have to accommodate if the dynamic between structure and dialogue is seen to influence the amount of autonomy and self-directedness that students need to succeed (Lee & Gibson, 2003; Moore, 2013b; Shearer, 2013). At other times, autonomy is conceived of as a characteristic of learning programs, based on the amount of learner control they allow (or require; Moore, 2013b). For instance, programs that allow students to develop their learning plans, or tap other resources to learn and self-assess their progress, would be considered highly autonomous. When autonomy is conceived of as learner control, it can reduce TD.

The theory of transactional distance emphasizes the importance of getting the balance right between structure, dialogue, and autonomy (learner control) “for a particular student population and subject field” (Moore, 2013b, p. 71). Failing to strike that balance can diminish student performance and satisfaction (Moore, 2013b, p. 71). Figure 1 illustrates how melding the CoI framework with TD theory informs our Blended Learning Distance Mediation framework and sheds light on how to get that balance right.

The CoI framework identifies three types of presence—social, cognitive, and teaching—that recent studies found to be correlated with student satisfaction and achievement of learning outcomes (Akyol & Garrison, 2008; Shea, Joaquin, & Gorzycki, 2015). Social presence has a greater impact on satisfaction while cognitive and teaching presence affect both learning and satisfaction (Akyol & Garrison, 2008). The BLDM framework shows how teaching presence, social presence, and cognitive

**FIGURE 1.**  
The Blended Learning Distance  
Mediation Framework



presence may mediate the relationships between and among structure, autonomy, and dialogue to mitigate the effects of transactional distance on student performance and satisfaction.

*Teaching presence* includes course design and organization, facilitation, and instruction (Akyol & Garrison, 2008; Mayadas, Bourne, & Moore, 2003; Shea, Swan, Li, & Pickett, 2005). When teaching presence creates structure and process, social and cognitive presences are enhanced (Tolu & Evans, 2012). Instructors can use teaching presence to balance structure and autonomy by conveying information about learning objectives, materials, assignment instructions, and assessment strategies, including who gets to make decisions about each of those things (Shearer, 2013).

*Social presence* emerges in an environment that supports open communication, promotes interaction among students and with instructors and content, and facilitates group cohesion (Akyol & Garrison, 2008; Mayadas et al., 2003). Social presence emphasizes the relational aspects of online engagement and may be accommodated through technology, classroom management, and structured responses (Shearer, 2013). Thus, social presence can be seen as mediating structure and dialogue. High levels of social presence may enhance cognitive presence by

laying the groundwork for critical discourse and facilitating the development of communities of inquiry among students (Mayadas et al., 2003; Pelz, 2004; Tolu & Evans, 2012). *Cognitive presence* results from exchanges that facilitate the construction of shared knowledge or meaning making (Pelz, 2004). Cognitive presence primarily mediates between dialogue and autonomy.

Rooted in the BLDM framework, our study pursued two research questions:

1. What is the relationship between transactional distance (including between and among structure, autonomy, and dialogue) and (a) student performance and (b) student satisfaction?
2. How do teaching, cognitive, and social presence help strike the balance among dialogue, autonomy, and structure to achieve student satisfaction and performance? More specifically, what roles do technologically enhanced activities, including their interactions with traditional activities, play to convey presence and promote active learning?

### THE HYBRID COURSES

A by-product of the explosion of technology in the education realm, hybrid courses allow for more collaborative-constructivist learning experiences (Garrison & Archer, 2000) and share three distinguishing features: (a) online learning activities are used to complement in-person activities; (b) time in the classroom is reduced, but not eliminated; and (c) online and in-person instructional elements of the courses are designed to interact and benefit from the strengths of each (Learning Technology Center, 2014). Hybrid courses have been found to provide opportunities for more equitable participation and community building (Hu & Johnston, 2012; Rovai & Jordan, 2004).

During spring and fall 2014, the MPA program at San Francisco State University piloted six different hybrid courses with three different instructors to increase flexibility for students and maximize use of classroom space. While

the courses employed traditional assignments, technologically enhanced activities (which we call VEAs, or virtual engagement activities) were prominent (Table 1).

Two interactive technologies (chat forum and online news and literature search) were used in several courses; the remaining four were used in one course each. Versatile enough to meet different task purposes, the chat forum—an asynchronous online discussion mechanism—was used in all six courses. The instructors guided the dialogue during discussions and answered student questions. Students in the forum discussed instructor-assigned or student-identified case studies. Interacting with the traditional course activities, the forums provided a supplementary mechanism for thoughtful dialogue, brainstorming, and debates. They extended the time to explore topics; created a means for feedback, help, and answering questions on homework or field instructions; and enabled quizzes or exams to be conducted online. Three courses also took advantage of digital libraries and the wealth of online resources that enable students to conduct literature reviews of scholarly materials and news articles. Apart from developing students' information literacy skills, these tools let students bring back their research findings to class and online forums. Students engaged in dialogue about their research, which helped clarify connections between their online discoveries and the class lessons or served as an "anchor" for further questions. The literature searches also aided in fashioning the students' terminal projects.

One course used technology and an experiential approach by having students conduct interactive website evaluations using a platform that asked students to pose online as potential beneficiaries; they evaluated the website's design, user-friendliness, and comprehensiveness and discussed related challenges of public service provision. Another course employed wiki technology so students could collectively make sense of interview data in light of assigned readings, identify relevant themes, and write a team final report. The e-portfolio required students in the Capstone course to demonstrate how

**TABLE 1.**  
Technologically Enhanced Activities Used for Virtual Engagement Activities (VEAs)

	<b>Program and Service Delivery (PA 727)</b>	<b>Comparative Perspectives in Public Service (PA 754)</b>	<b>Nonprofits, Public Policy, &amp; Society (PA 744)</b>	<b>Intergovernmental Relations (PA 784)</b>	<b>Economic Perspectives (PA 724)</b>	<b>Capstone Course in Public Administration (PA 800)</b>
Chat forum/discussion boards	Discussion Help, Q&A	Discussion Reflective Writing Help, Q&A	Discussion Help, Q&A	Discussion Help, Q&A	Discussion Brainstorming Quiz/Exam Help, Q&A	Discussion Peer feedback Help, Q&A
Interactive website evaluation	Experiential evaluation of platform	Not used				
Online news and literature search	Scholarly article and news research	Scholarly article and country data research	Not used	News research	Not used	
Wiki	Not used		Team writing and research sharing	Not used		
E-portfolio	Not used					Share/reflect on MPA work
Lecture videos	Lecture supplement	Not used				

they achieved program-identified learning competencies while pursuing the degree. A different course used videos to supplement teaching and classroom time; the videos served as an online reference to facilitate review of techniques.

Instructions and assessment rubrics for all activities were posted on the online learning management system for each course, usually at the beginning of the semester to mitigate anxieties and help students anticipate deadlines, goals, and expectations. Some courses relied more heavily on VEAs than others; many VEAs interacted with in-class activities and assignments or fieldwork. The VEAs accounted for varying proportions of the final grades in each of the six courses, ranging from a high of 50% in the Program and Service Delivery course to a low of 18% in the Capstone course. Table 2 provides a detailed overview for each course.

The courses covered a range of topics from across the curriculum, as follows:

- The Program and Service Delivery course introduced public service delivery tools, their corresponding political and managerial challenges, and project management concepts and techniques.
- The Comparative Perspectives in Public Service course introduced students to the method and tools of comparative inquiry for thinking critically about the strengths and weaknesses of various ways of addressing public concerns in democratic systems.
- The Nonprofits, Public Policy, and Society course used a policy lens to provide a historically grounded introduction to the nonprofit and philanthropic sectors, focusing on their relationships with the governmental and for-profit sectors.

- The Intergovernmental Relations course introduced students to the history, principles, and dynamics of American intergovernmental relations. It stressed the importance of understanding institutional and fragmentation challenges.
- The Economic Perspectives course promoted student understanding of microeconomic and macroeconomic concepts, different market forms and government programs, market failures, cost of living, and the US monetary system. It also explained the economic changes that affect households, firms, and markets.
- As the culminating experience for the majority of MPA students (a very small fraction chose to write a thesis), the Capstone course required students to synthesize and integrate material and skills learned while pursuing the MPA degree, in order to ensure that they would be equipped to demonstrate proficiency in their ability to apply a range of public administration concepts at the end of the semester.

#### **DATA, METHODS, AND DESCRIPTIVE RESULTS**

Using data from student surveys, instructor journals, and learning activities, we use the BLDM framework to examine how elements of course design, including the interaction between traditional and technologically enhanced activities, contribute to student satisfaction and performance. The data are from all six of the hybrid courses offered in two semesters, including student responses to surveys. To answer our two research questions about (1) the relationship between transactional distance (including between and among structure, autonomy, and dialogue) and both (a) student performance and (b) student satisfaction; and (2) how teaching, cognitive, and social presence help strike a balance among dialogue, autonomy, and structure, we first use our data to create measures of these variables. For performance and satisfaction measures, the unit of analysis is a student in a specific course. For elements of course design, it is the course.

To measure transactional distance, we code dimensions of structure, dialogue, and autonomy for each type of online activity in each course, as well as the level of interaction between online and traditional class activities, using a set of established decision rules. Scholars have attempted to operationalize these dimensions of transactional distance, though measures of autonomy have often been left out, perhaps because autonomy's role is not always clear (Moore, 2013a; Saba, 2013). Previous studies have used survey instruments to gather student perceptions of its three dimensions (Bischoff, Biscotier, Kooker, & Woods, 1996; Chen & Willits, 1998), discourse analysis (Saba & Shearer, 1994), and direct observation, but there are no agreed-upon measures (Goel, Zhang, & Templeton, 2012; Gorsky & Caspi, 2005; Moore, 2013b). We take a grounded approach to operationalizing each dimension, based on the actual characteristics of each VEA. Each dimension is coded from 0 (not present) to 3 (high). For example, we code two aspects of dialogue: instructor-student and student-student, with 0 representing no online correspondence through e-mail or chat forums and 3 representing three or more online correspondences for each activity. Similarly, we code four aspects of autonomy (accessing instructions for the assignment, accessing resources to complete the assignment, submitting the assignment, and accessing feedback on the assignment) and three aspects of structure (procedures needed to achieve the learning goal of the activity, accommodation allowed to vary the goals of the activity, and accommodation allowed to vary the output for the activity but with goal unchanged). Finally, we code one aspect of interaction with traditional activities to indicate how integrated VEAs were with traditional activities.

Then we calculate the weighted measures for each dimension of the variables by multiplying the code for each type of online activity by its weight (proportion of final VEA grade). Next, we add the measures for each dimension and take their average to get the value for each variable (autonomy, dialogue, structure) for each course (Table 3).

**TABLE 2.**  
Profiles of the Hybrid Courses

	<b>Program and Service Delivery (PA 727)</b>	<b>Comparative Perspectives in Public Service (PA 754)</b>	<b>Nonprofits, Public Policy, and Society (PA 744)</b>	<b>Inter-governmental Relations (PA 784)</b>	<b>Economic Perspectives (PA 724)</b>	<b>Capstone Course in Public Administration (PA 800)</b>
Type/nature of course	Limited choice	Elective	Elective	Elective	Limited choice <sup>a</sup>	Limited choice
Number of students enrolled	14	8	26	12	29	21
Number of students who completed the opening survey	13	6	17	9	21	14
Number of students who successfully completed the course	12	7	24	11	29	19
Number of students who completed the closing survey	6	5	14	7	21	10
In-person class sessions <sup>b</sup>	8.5	6.5	8.5	8	8	6.5
Online activities (VEAs) <sup>c</sup>	6 (2 parts per activity)	8 (2-3 parts per activity)	6 (2 parts per activity)	4 (2 were part of traditional research)	8 (2-3 parts per activity)	6 (2-3 parts per activity)
VEAs as % of final grade	50%	40%	30%	20%	20%	18%
Traditional oral presentations	2	1	1	2	1	1
Traditional written assignments	4	4	4	5	4 (broken into 7 assignments)	7

<sup>a</sup>Required for students admitted under the pre-2013 curriculum. <sup>b</sup>Each class met for half of the usual scheduled time for the first in-person session. <sup>c</sup>VEA = virtual engagement activity.

TD theory suggests that the relationship among these variables is linear (Moore, 2013b). We believe that interaction with traditional activities provides students with another way to engage the material, their classmates, and the instructor, so we believe it will reduce transactional distance overall. We calculate two scores for transactional distance—one for just the online components of each course (TD online) and another for the course overall (TD overall)—using the following equations:

TD Online = Structure – (Dialogue + Autonomy)

TD Overall = TD Online – Interaction with Traditional Activities

The possible scores for TD online range from –6 (lowest transactional distance) to 3 (highest transactional distance). The possible scores for TD overall range from –9 (lowest transactional distance) to 0 (highest transactional distance). Table 3 shows these scores. The Economic

**TABLE 3.**  
Measures of Transactional Distance for Each Course

	<b>Program and Service Delivery (PA 727)</b>	<b>Comparative Perspectives in Public Service (PA 754)</b>	<b>Nonprofits, Public Policy, and Society (PA 744)</b>	<b>Intergovernmental Relations (PA 784)</b>	<b>Economic Perspectives (PA 724)</b>	<b>Capstone Course in Public Administration (PA 800)</b>
Autonomy <sup>a</sup>	3.00	2.33	2.00	3.00	1.24	2.38
Dialogue <sup>a</sup>	2.35	1.67	2.50	2.25	0.74	1.55
Structure <sup>a</sup>	2.53	2.00	2.11	2.67	3.00	2.37
Interaction with traditional <sup>a</sup>	2.60	2.67	2.33	2.50	2.47	2.80
TD online <sup>b</sup>	-2.82	-2.00	-2.39	-2.58	1.03	-1.56
TD overall <sup>c</sup>	-5.42	-4.67	-4.72	-5.08	-1.44	-4.36

<sup>a</sup>Possible scores range from 0 (not present) to 3 (high). <sup>b</sup>Possible scores range from -6 (lowest transactional distance) to 3 (highest transactional distance). <sup>c</sup>Possible scores range from -9 (lowest transactional distance) to 0 (highest transactional distance).

Perspectives course has the highest scores for TD online (1.03) and TD overall (-1.44); it also has the lowest levels of dialogue and autonomy and the most structure. The Program and Service Delivery course has the lowest scores for TD online (-2.82) and TD overall (-5.42); this course is tied with Intergovernmental Relations for having the highest autonomy score. The Nonprofits, Public Policy, and Society course has relatively low autonomy (2.00) but also has less structure (2.11) and more dialogue (2.50) than any other course. All six courses have medium-to-high levels of interaction between technologically enhanced activities and traditional ones.

We use two indicators of student performance: the average of students' VEA grades and their final course grades. Most students (41) performed well in the classes, earning a final grade of *A* or *A*-minus. Only three students earned a final grade below *B*. All but four students performed as well or better on VEAs compared to their final grades.

To gauge student satisfaction, we rely on student survey responses. The questions captured

indicators of student satisfaction with the frequency, nature, and quality of online and face-to-face interactions, as well as their motivations for enrolling in the hybrid course and their understanding of course expectations—all documented as crucial variables in the literature (Ho, Lu, & Thurmaier, 2006, p. 86). We asked students to take an opening-week survey consisting of 19 statements, using a 5-point Likert scale (strongly disagree to strongly agree). During the final week of the semester, we sent the closing survey to the students who took the opening survey to gauge whether their expectations were met, to parallel the opening survey. Survey responses also provided data about the qualities of dialogue, structure, and autonomy present in each course. The closing survey also included seven open-ended questions.

A total of 102 students completed the courses; 80 of them took the opening survey and 63 took the closing survey. We used Qualtrics to conduct the survey. We collapsed the 5-point Likert scale to a 3-point scale when reporting results (strongly agree and agree are collapsed into one category—agree; strongly disagree and disagree into one category—disagree). The results appear in Table 4.

Most students (70% or more) enrolled in the courses to advance their careers, because they needed the units, and because of their interest in the subject matter. About half of them enrolled because of scheduling convenience. In the opening survey, we asked students how clearly they understood the course content to be covered and the course expectations, such as activities and assignments. A majority agreed that they had a clear understanding of course content to be covered (74%) and a clear understanding of course expectations (82%).

### **Satisfaction With Course Activities and Assignments Overall**

When students were asked at the beginning of the semester if they expected more rigorous requirements in hybrid courses, responses were nearly evenly distributed: 30% were neutral, 30% disagreed, and slightly more students agreed (40%). At the end of the semester, a much higher percentage (46%) agreed that “this hybrid course had more rigorous requirements than face-to-face courses”; only 24% disagreed. At the beginning of the semester, 54% agreed that they were “highly motivated” while 15% disagreed. In the closing survey, an overwhelming majority (79%) agreed that they were motivated to learn in the course; only 13% disagreed.

The courses exceeded student expectations about the opportunities the courses would offer. At the beginning of the semester, only 31% said they expected more opportunities to exercise field research skills and 39% expected more experiential learning opportunities. When asked at the end of the semester whether the course actually provided more opportunities in these areas, a majority agreed: 60% said the courses provided more field research opportunities and 62% said they provided more opportunities for experiential learning.

At the beginning of the semester, a majority of students (62%) agreed that they learned more through highly structured activities, though 31% were neutral. Responses were spread out a bit more in answers about self-directed learning: 28% of students agreed that they preferred self-

directed learning and more (39%) were neutral. At the end of the semester, 54% said that they learned more through the courses’ highly structured activities and 79% agreed that the courses provided more opportunities for self-directed learning.

### **Satisfaction With Face-to-Face Dialogue and Interaction**

In the opening survey, 89% of students agreed that they expected to receive valuable feedback in face-to-face interactions with the instructor, though expectations were lower with regard to the frequency—only 46% expected frequent face-to-face interactions. The closing survey shows that the courses mostly met these expectations: 68% of students agreed that the frequency of face-to-face interactions met their expectations, 76% agreed that those interactions were meaningful, and 79% agreed that they received valuable face-to-face feedback.

### **Satisfaction With Online Dialogue and Interaction**

Students had high expectations regarding the frequency and meaningfulness of online interactions with classmates and instructors: 79% agreed that they expected frequent online interactions and 70% agreed that they expected those online interactions to be meaningful. Most (89%) also expected to receive valuable feedback online. The closing survey revealed high levels of satisfaction with online engagement overall: 69% agreed that the frequency of online interactions met their expectations, 59% agreed that the interactions were meaningful, and 75% agreed that they received valuable online feedback.

With these data in hand, we determined that the best way to answer our first research question about the relationship between transactional distance and (a) student performance and (b) student satisfaction was to run correlations among the variables. Although correlation analysis has its limitations—most notably its inability to establish causality or control for spurious relationships and its weakness in calculating non-linear relationships—it is appropriate for this

**TABLE 4.**  
Survey Results Summary

Reason for enrolling	Agree, opening survey	Agree, closing survey
The convenience of the hybrid format	48%	49%
The convenience of the day and time it was offered	62%	51%
I am interested in the subject	74%	70%
I need the units	74%	71%
It will help me advance my career	80%	73%
<b>Satisfaction with course activities and assignments overall</b>		
More rigorous requirements than face-to-face courses	40%	46%
Provide more opportunities to exercise my field research skills	31%	60%
Provide more opportunities for experiential learning	39%	62%
Understanding of the content that will be covered in this course	74%	N/A
Understanding of the course expectations (activities and assignments)	82%	N/A
I prefer self-directed learning	28%	79%
I learn more through highly structured course activities	62%	54%
I am highly motivated to learn in a hybrid format	54%	79%
<b>Satisfaction with face-to-face dialogue and interaction</b>		
Frequent face-to-face interactions with my classmates and instructor	46%	68%
Meaningful interactions with classmates and instructor during face-to-face sessions of this course	89%	76%
Valuable feedback from the instructor during face-to-face sessions and office hours	89%	79%
<b>Satisfaction with online dialogue and interaction</b>		
Frequent online interactions with my classmates and instructor	79%	69%
Meaningful interactions with classmates and instructor during online sessions	70%	59%
Valuable feedback from the instructor during on-line sessions and virtual office hours	89%	75%

exploratory study that seeks to determine whether relationships among variables exist. We use the Pearson correlation coefficient to show whether the pairs of variables are related, the strength of the relationship, and whether the relationship is positive or negative.

To answer our second question—about the roles that technologically enhanced activities play in conveying presence to help strike a balance among dialogue, autonomy, and structure and promote active learning—we look to student comments on the surveys, our own instructor reflection journals, and the course

design variables. Though previous studies have operationalized each of the three types of presence, there are no agreed-upon measures (Garrison & Akyol, 2013; Graham, 2013; Shearer, 2013). We take a qualitative approach to identifying indicators of presence using the data described above, based on the definitions found in the literature. For example, an indicator of cognitive presence (defined as shared knowledge or meaning making resulting from dialogue; Pelz, 2004) would be a student comment about the value of collective learning—or an “ah-ha” moment—through online dialogue combined with other activities.

Using the BLDM framework, we analyzed the qualitative data and reflected on how the technologies in our VEAs conveyed presence and mediated transactional distance. Both instructors' reflections and students' comments provided real-time feedback on the structure and learning autonomy of the activities, the level of engagement with the materials and one another, and the nature and quality of dialogue as well as on issues arising regarding any of these and the technology involved in particular activities.

Our study is exploratory; it is limited by the small sample size and the use of correlations and qualitative inquiry to analyze the data. As a result, the findings must be interpreted with caution and should not be generalized. Rather, they should be taken as a starting point for further research on hybrid course pedagogy in public affairs programs. The BLDM framework is a promising one that merits testing, as discussed at the end of this article.

## FINDINGS AND DISCUSSION

Fundamentally, the results of our study are consistent with TD theory. Both measures of transactional distance—TD online and TD overall—are negatively correlated with responses to the survey statements on satisfaction, suggesting that students in courses with higher levels of transactional distance were less likely to be satisfied. Transactional distance has no correlation with student performance, which means that students in courses with high levels of transactional distance performed about the same, on average, as students in courses with low levels of transactional distance.

Structure is negatively correlated with most survey responses, dialogue is positively correlated with most responses, and autonomy is positively correlated with all responses. In other words, students in high-autonomy courses were most likely to be satisfied with all aspects of those courses and those in high-dialogue courses were likely to be satisfied with most aspects of those courses. Structure had the opposite effect: students in low-structure courses were satisfied with many aspects of those courses (Table 5).

## Course Activities and Assignments Overall

TD overall and TD online are both negatively correlated with nearly all responses about overall satisfaction with course activities and assignments: in courses with higher levels of transactional distance, students were less likely to agree with statements about how the activities helped their learning (i.e., "this course provided more opportunities to exercise my field research skills"). The exception is the absence of relationship between TD online and responses to the statement "this course provided opportunities for self-directed learning." Structure is also negatively correlated with all responses, except for the response to the statement about self-directed learning, where there is no relationship. Notably, autonomy is positively correlated with all responses: students in courses with higher levels of autonomy (learner control) are more likely to agree with all of the statements about opportunities for learning. The dialogue variable is a bit less robust; it is positively correlated with responses to three of the six statements. Dialogue has no relationship to perceptions of rigor, opportunities for self-directed learning, or overall motivation.

## Dialogue and Interaction

As expected, TD overall and TD online are negatively correlated with all of the responses about satisfaction with face-to-face dialogue and interaction. In courses with higher levels of transactional distance, students were less likely to feel engaged in face-to-face sessions of the class, feel like they received valuable feedback during face-to-face discussions, or agree that their expectations about the frequency and nature of face-to-face discussions were met. Structure is negatively correlated with three of the four statements, while dialogue is positively correlated with those same three statements. Neither structure nor dialogue is related to whether students' expectations about the frequency of face-to-face interactions were met. Again, the autonomy variable is robust; it has strong positive correlations to all of the statements in this category. The results for online dialogue and interaction are similar to those for face-to-face, with one exception:

**TABLE 5.**  
Correlations Among Transactional Distance (TD) and Student Performance and Satisfaction

	Structure	Autonomy	Dialogue	TD online	TD overall
Structure	1				
Autonomy	-.5208*	1			
Dialogue	-.7740*	0.7567*	1		
TD online	0.8095*	-.8863*	-.9573*	1	
TD overall	0.8055*	-.9114*	-.9267*	0.9954*	1

**Indicators of Student Performance**

Final course grade	-.045	0.1495	0.039	-.0907	-.1063
Final average for course virtual engagement activity (VEAs)	-.1047	0.037	0.0639	-.07	-.0797

**Indicators of Student Satisfaction**

*Satisfaction with course activities and assignments overall*

This hybrid course had more rigorous requirements than face-to-face courses	-.3557*	0.2716*	0.165	-.2731*	-.3048*
This course provided more opportunities to exercise my field research skills	-.4802*	0.4675*	0.5521*	-.5616*	-.5525*
This course provided more opportunities for experiential learning	-.3521*	0.3992*	0.4774*	-.4686*	-.4561*
This course provided opportunities for self-directed learning	-.1917	0.2767*	0.1856	-.2456	-.2570*
I learned more through this course’s highly structured activities	-.2907*	0.2944*	0.2567*	-.3092*	-.3181*
Overall, I was motivated to learn in this hybrid course	-.2516*	0.3469*	0.2212	-.3053*	-.3223*

\*Correlation is significant at the .05 level (two-tailed).

structure is not related to whether students’ expectations about the nature of online interactions were met.

**Using Technology to Mediate the Effects of Transactional Distance**

To answer our second question—about the roles that technologically enhanced activities play in conveying presence to help strike a balance among dialogue, autonomy, and structure and promote active learning—we look to student comments on the surveys, our reflection journals, and other course variables and design factors in light of the BLDM framework. We reflect on how we used technologies in our VEAs to navigate transactional distance.

The chat forums promoted autonomy by providing flexibility in when (and how) students participated. Forums targeted social and active learning purposes and helped convey social, teaching, and cognitive presence. In the Inter-governmental Relations course, a chat at the beginning of the semester helped establish “community” among the hybrid learners and set the tone for the ensuing reflective activities, promoting social presence.

The forums also served as a tool for establishing teaching presence, enabling instructors to quickly diagnose conceptual and task comprehension and help students apply their critical thinking skills in new ways. For example, the Economic

**TABLE 5.**  
**Correlations Among Transactional Distance (TD) and... (continued)**

	Structure	Autonomy	Dialogue	TD online	TD overall
<b>Satisfaction with face-to-face dialogue and interaction</b>					
The frequency of the face-to-face interactions I had with my classmates and instructor for this course during the semester met my expectations	-.099	0.4455*	0.1063	-.2572*	-.2982*
The nature of the interactions I had with my classmates and instructor during face-to-face sessions of this course met my expectations	-.3610*	0.4676*	0.2914*	-.4137*	-.4437*
I received valuable feedback from the instructor during face-to-face sessions and office hours for this course	-.3382*	0.4184*	0.3909*	-.4335*	-.4361*
I felt engaged in face-to-face sessions of this class	-.3464*	0.4347*	0.2595*	-.3820*	-.4140*
<b>Satisfaction with online dialogue and interaction</b>					
The frequency of online interactions I had with my classmates and instructor for this course during the semester met my expectations	-.1802	0.3674*	0.2225	-.2973*	-.3151*
The nature of the interactions I had with my classmates and instructor during online sessions of this course met my expectations	-.2344	0.5079*	0.2854*	-.3976*	-.4230*
I received valuable feedback from the instructor during online sessions and virtual office hours for this course	-.4426*	0.4019*	0.3581*	-.4365*	-.4521*
I felt engaged in online sessions of this class	-.2638*	0.4461*	0.2542*	-.3646*	-.3886*

\*Correlation is significant at the .05 level (two-tailed).

Perspectives instructor conveyed teaching presence by adding structure to the dialogue, requiring half the class to initiate the conversation and the other half to provide responses, which helped students manage their exchanges; students noted that they appreciated this design.

Forums promoted cognitive presence, student autonomy, and credibility by enabling peer assessments of each other's summaries. For example, in the Program and Service Delivery course, students wrote that "the online forum setup was clear and facilitated dialogue in a structured way" and "students posted early enough so I could...have time to reflect and comment on their inputs," suggesting that

cognitive presence was established. Similarly, according to one Capstone course student,

The online format allowed all to learn from one another, not only individual analysis considerations but also how all ideas were framed in literature and course materials....It also felt fulfilling to understand where someone was working to frame an idea or main concepts and to help them develop their ideas or work together to find paramount ideas within the cases. By fact-checking and referencing where I thought ideas needed further development, this helped my learning and thought processes, too.

The online news and literature searches tapped students' autonomy and honed their information literacy skills. Students engaged in dialogue when reporting about their searches, helping clarify connections between their online discovery and the class lessons or serving as an "anchor" for questions, which fostered social and active learning. These activities allowed the instructor to diagnose conceptual understanding and digital research skills and helped convey social and cognitive presence. As one student in the Comparative Perspectives class noted,

In a traditional course setup, you usually come to class and can engage with students right away. However, the course materials are not as rigorously studied as it is in a hybrid course. Since we had to answer specific questions on a weekly basis, we became more educated in the topics and countries. As a consequence, we were also more prepared to discuss the concepts in class.

Students in the Intergovernmental Relations course also spoke to the value of these activities. One student said that these activities "allowed me to have flexibility over how and what I chose to learn more about. Oftentimes in the classroom, you may be listening to lecture, but going out and talking with experts or other varied research/learning methods kept me engaged." Another remarked that "online activities required more research, exposing me to new sources and information I would not otherwise have read." A student in the Program and Service Delivery course agreed, saying, "The fact [that] we had time to research information for ourselves before responding, engaging, and contributing to online discussions helped contribute to my learning in ways face-to-face may not have."

An interactive website evaluation of government programs enhanced student autonomy and dialogue in the Program and Service Delivery course. Social and cognitive presence were promoted as the students dialogued in class about the results of their virtual "application," comparing their individual experiences and results, which formed the bases for their service delivery suggestions.

Using wikis gave students autonomy in identifying themes in interviews and connecting those to concepts covered in course readings, sometimes spurring them to question how well (if at all) those concepts applied to their community engaged research. Wikis allowed the instructor to monitor student progress and interaction in real time, weighing in to guide analysis or raise critical questions. The wikis were used to convey social, teaching, and cognitive presence. As one student in the Nonprofits, Public Policy, and Society course noted, "At times when I felt stuck, I could always log on to the wikis and VEAs to gain a little inspiration or direction." Another said, "I was able to explore ideas about the reading and learn more about each small group's project through the online environment. The in-class time was helpful for focusing on the reading."

E-portfolios were used to convey cognitive presence while videos helped convey teaching presence. We did not use either of these technologies to promote social, active learning.

Finally, we found indications that instructors and students alike faced real and perceived difficulties in effectively engaging all students in online activities and dialogue. As one student enrolled in the Nonprofits, Public Policy, and Society course commented, "We had a large class size, so the online interaction with classmates was not as much as the hybrid course I took that had eight kids." She felt the interaction was lower even though that course was designed to have a medium-high level of dialogue, whereas the class with eight students (Comparative Perspectives) had low-medium dialogue, suggesting that the larger class size posed a challenge for the instructor in establishing social presence.

To sum up, our study shows that as instructors we were most effective at conveying cognitive and teaching presence but faced some challenges establishing social presence. Where student performance or grades are concerned, transactional distance variables have no correlation. However, our measures of transactional dis-

tance are negatively correlated with indicators of satisfaction. Our findings suggest that we may be able to improve satisfaction by more effectively conveying social presence to mediate between structure and dialogue.

### **IMPLICATIONS FOR TEACHING AND RESEARCH IN PUBLIC AFFAIRS**

Importantly, this study's attempt at a grounded theory of hybrid course design implies no singular strategy for success with the format. A key implication is that instructors need to perform a balancing act among the elements of the BLDM framework in the design and execution of hybrid courses in order to ensure student satisfaction and improve performance. Striking that balance may eventually enhance the program's reputation.

Instructors' abilities to perform this balancing act may be affected by the levels and structures of support available to them and their students. Technology (or technological proficiency) should not drive course activities but could constrain the parameters for virtual activities. Instructors must continue to consider how best to use technologically enhanced activities to convey presence and promote active learning. Both instructors and students will likely have to adapt their teaching and learning styles to the hybrid format, which may require a mutual commitment to adjust to emergent conditions and be responsive to feedback.

The BLDM framework presented in this study provides a useful heuristic for understanding how this balancing act may play out in practice. It suggests how the three dimensions of transactional distance—degree of student autonomy, structure of course or activity, student dialogue with peers and instructor—may be harmonized with each other and mediated using strategies to convey cognitive, social, and teaching presence. For example, TD theory alone tells us that structure and dialogue are inversely related; but the CoI framework suggests that structure could be used to convey social presence by establishing expectations and creating a safe space for the exchange of ideas,

thereby promoting dialogue. Also, the BLDM approach suggests that courses high in autonomy may need to be especially mindful of establishing teaching and cognitive presence in order to balance autonomy against structure and dialogue. More specifically, our findings provide insight as to how particular technologically enhanced activities can be used to convey presence and mediate among dimensions of transactional distance. Those insights could be combined with information about the technological know-how of instructors and students to design courses that strike a balance, leading to strong student performance and satisfaction.

Directors of public affairs programs should take this 'balancing act' implication into careful consideration when deciding whether to offer hybrid courses, where those courses are best placed in the curriculum, and which instructors might be well suited to teaching them. As Shearer (2013) notes, decisions about course design are made for many reasons, including concerns related to access, cost, and pedagogical effectiveness. Program directors may use the BLDM framework to help guide their discussions with faculty and their decisions about whether and how to incorporate hybrid courses into their programs. Programs that already offer hybrid courses may use the BLDM framework to refine course activities and processes, to map out strategies for the courses, or to verify where enhancements can be made.

As public administration education moves into more advanced technological realms, confronting students with dilemmas of collaboration and negotiation in face-to-face and virtual platforms, and therefore necessitating skill development in these areas, more effort should be devoted to systematically studying how to best leverage technologically enhanced pedagogies in MPA curricula. The Blended Learning Distance Mediation framework provides a next step in theory development that merits systematic empirical testing. First, additional work should be done to develop more reliable and valid measures of the three dimensions of transactional distance and the three types of pre-

sence. Future studies should include data from more students across more classes and could statistically examine variables we were unable to explore: students' previous hybrid course experiences, class size, instructor experience, the effects of particular technologies, and student demographics. Such studies may help refine and test the conceptual framework we have developed and, eventually, use it to reveal causation.

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