

Leadership Style in an Asynchronous, Internet-based, Learning Environment

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Findings of a large survey indicate that the structure of leadership in an asynchronous learning environment is consistent with the one repeatedly found in the context of face-to-face leadership. Correlations with students' satisfaction were highly positive for transformational leadership (including contingent reward), low positive for management by exception-active and negative for passive leadership (laissez faire and management by exception-passive). Leadership styles predict students' satisfaction above and beyond their need for leader assistance.

Leadership is a crucial factor affecting many organizational and educational outputs such as job satisfaction and rate of teacher burnout (Kirby, Paradise, & King, 1992; Koh, Steers, & Terborg, 1995; Silins, 1992). Theories of organizational leadership have been developed in the context of face-to-face interactions. But increasingly more organizational interactions are conducted over the web, without the subordinates meeting the leaders face-to-face. Very few studies reported findings regarding virtual or online leadership (e.g., Avolio, Kahai, & Dodge, 2001; Kahai, Sosik, & Avolio, 2003).

We examined leadership style of instructors who moderated web-based discussion groups of academic courses. Students rated the leadership style of the instructors, and reported their general satisfaction with the discussion group, and the contributions of the instructors to task and social aspects of the discussion group.

Because of the lack of physical, face-to-face contact in Web-based interactions, students may not feel the instructor's presence in the course (Garrison, Anderson & Archer, 2000; Garrison & Anderson, 2003). Therefore the nature of leadership may differ between face-to-face and web-based social contexts. Are theories of leadership, developed in the context of face-to-face interactions, valid in the context of distant education conducted in discussion groups on the web?

We adopted the typology of Bass (1985) which refers to three main styles of leadership: transformational, transactional and laissez-faire. *Transformational leadership* induces followers and their leaders to inspire each other to achieve "higher levels of morality and motivation" such as justice and equality (Burns, 1978, p. 20). *Transactional leadership* refers to exchange relationships between the leaders and their followers: each enters the transaction because of the expectation to fulfill self-interests, and it is the role of the leader to maintain the status quo by satisfying the needs of the

followers. *Laissez-faire* is distinguished from the other two styles because it is perceived as a failure to take responsibility for managing. Leaders who adopt this type of behavior avoid providing direction and support, show lack of caring for what the followers do, and bury themselves in busy work (Bass, 1998).

Bass (1985) developed the Multifactor Leadership Questionnaire (MLQ) and identified five subfactors of transformational leadership: *Idealized influence - attributed* (referred to the socialized charisma of the leader), *idealized influence - behavior* (the actual actions taken by the leader to bring people to follow his or her vision), *personal consideration* (paying personal attention), *inspirational motivation* (energizing the followers by viewing the future with optimism and stressing ambitious goals), and *intellectual stimulation* (motivating people to think of innovative and extraordinary solutions to problems). Different factors have also been identified in transactional leadership (Bass, 1985): *Contingent reward* (rewarding people upon completing an agreed-upon task) which is closely related to transformational leadership (e.g., Silins, 1992), and *Management by exception*, either *active* or *passive* (responding when things go wrong, Bass & Avolio, 1990).

So far the validity of the distinction between the leadership styles has been tested in the context of face-to-face interactions (see e.g., Antonakis, Avolio, & Sivasubramaniam, 2003). We sought to examine whether the same dimensions of leadership emerge in the context of relationships between instructors and students in an asynchronous learning environment.

Instructor's Leadership Style and Students' Satisfaction

The second purpose of the study was to investigate the relationship between instructor's leadership style and students' satisfaction. Leadership style has profound effects on the learning environment. It affects the opportunities that students have to ask questions, the extent to which they can rely on the instructor to receive clear and specific answers, the degree to which the instructor can inspire the students to achieve higher order expectations than previously defined by them, and the extent to which students feel that their concerns are being taken care of.

We expected transformational leadership to correlate positively with students' satisfaction: Charismatic instructors arouse students to be involved with the course material, and not merely study to achieve high grades. Personal consideration is likely to help students feel that they are not alone when trying to overcome academic obstacles, and intellectual stimulation is intrinsically tied to the very essence of academic studies. In sum, transformational leadership creates a "responsive and innovative environment" (Silins 1994, p. 274) that is likely to lead to students' satisfaction.

In the context of distance education, we expected a distinction between the aspects of transactional leadership. We expected *contingent reward* to be positively related to students' satisfaction, because it provides stability and structure to the learning experience. In contrast, we expected *management by exception* to be negatively related to satisfaction, because in the lack of face-to-face interaction with the instructor, students are likely to interpret this leadership style as denoting lack of involvement and

interest in the course. We expected a negative relation between *Laissez-faire* leadership style and satisfaction for the same reason.

Additionally, we tested if leadership styles predict students' satisfaction above and beyond students' need for leader assistance.

Method

Sample. Participants were 1270 students (57% female, mean age= 27) from 29 large academic courses taught at a distance learning institute. Each course had at least 200 enrolled students.

Instruments.

Leadership style: We assessed leadership style with Bass (1985) Multifactor Leadership Questionnaire (MLQ).

Satisfaction: Participants rated the extent of their satisfaction with the faculty's activities in the discussion group. Participants also rated the extent to which the instructor engaged in activities that contributed to the discussion group, as well as the level they desired such engagement. Three items measured contributions to learning tasks (e.g. helps understanding the course material) and three measured to contributions to the social climate (establishes good relationship with the students).

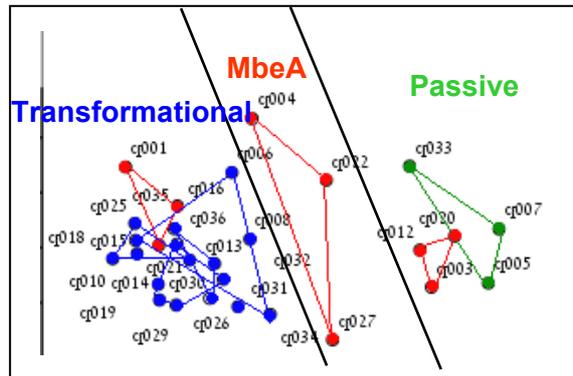
Leader assistance: The need for leadership questionnaire (Vries, Roe and Taillieu, 2002) was adapted as follows: we asked "I am assisted by my academic staff in order to..." instead of "I need my supervisor to..." appeared in the original questionnaire.

Procedure. We inserted a link to the survey in the Website of 29 academic courses. Participation was voluntary and anonymous.

Results and Discussion

We examined the structure of the leadership questionnaire with Multidimensional Scaling (using the PROXSCAL algorithm, see: Busing, Commandeur, & Heiser, 1997). The three leadership styles emerged in distinctive regions, where contingent reward was captured within the transformational leadership region and management by exception passive included in the laissez-faire region (see Figure 1). This finding replicates the structure found in previous studies conducted in social contexts where there was direct, face-to-face interaction between leaders and subordinates. Confirmatory factor analysis revealed better fit to the three-factor model (i.e., transformational, management by exception active, and passive) than to the original nine-factor model (see Table 1). Findings thus indicate that face-to-face interaction is not an essential aspect of leadership style and that the distal internet environment provides opportunities for the emergence of the same structure of leadership as in other social environments.

Figure 1: Multidimensional scaling.



MbeA - Management by exception active

Table 1: Confirmatory factor analysis.

Model	χ^2 (df)	CFI	χ^2/df	RMSEA
3 factors	1150.42 (374)	.88	3.08	0.72
9 factors	1851.56 (583)	.84	3.18	0.73

CFI - Comparative fit index

RMSEA - Root-mean-square error of approximation

Leadership style and satisfaction

In line with previous findings, transformational leadership was correlated positively with the student's level of satisfaction while laissez-faire correlated negatively with satisfaction. Management by exception active had a low-positive correlation with satisfaction. Table 2 presents these correlations.

To test the contribution of leadership styles above and beyond leader assistance, we used the leader assistance and the leadership styles as predictors of students' satisfaction in a hierarchical regression. It was found that leader assistance predicts satisfaction ($R^2 = .38$, $\beta = .36$). Adding leadership styles resulted in a significant change in R^2 (R^2 change: .40, $F(3,39) = 114.41$, $p < 0.001$). The β in this regression was .10 for leader assistance, .61 for the transformational leadership, and -.22 for the passive leadership (laissez-faire and management by exception passive). Management by exception active did not contribute significantly to the prediction of students' satisfaction.

Table 2: Correlations between leadership styles and students' satisfaction.

	General Satisfaction	Task		Social	
		Desired	Actual	Desired	Actual
Transformational	.69	--	.64	--	.68
MbeA	.10	--	.15	--	.17
Passive	-.11	-.24	-.42	-.24	-.31

MbeA - Management by exception active

Passive - laissez-faire and Management by exception passive

Conclusions and Practical Implications

In conclusion, findings indicate that the structure of leadership styles in discussion groups of academic courses is consistent with the structure repeatedly found in the context of face-to-face leadership. Leadership style is considerably correlated to students' satisfaction, and predicts satisfaction above and beyond leader assistance. A clear finding of our study is that students are less satisfied when the instructor is perceived to be passive. There is some evidence that leadership style in face-to-face context is trainable (Barling, Weber, & Kelloway, 1996). We suggest that this should be even more true for an asynchronous environment, in which the instructor has more control over the situational constraints. Thus, educational institutions should encourage faculty to adopt an active leadership style when moderating academic discussion groups.

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