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Developing a Leadership Perspective in the Classroom

John E. Barbuto, Jr.[1]

Abstract: This paper presents a normative pedagogical model that integrates leadership theory, student development, and cognitive/ego development. The first step, assessment of students' developmental stage/needs, uses a developmental model to assess students' developmental and motivational needs. The second step, selection of teaching style, incorporates leadership literature to develop teaching styles selected based on the developmental and motivational needs of students. The third step in the continuous process, evaluation of outcomes, involves assessment of either continued development and/or increased student motivation and improved student learning. Research and teaching implications of the proposed model are also discussed.

Keywords: Teaching pedagogy; student motivation; student development; leadership.

INTRODUCTION

Research on instructional effectiveness has been fairly widespread in the education literature. Much of the attention in past efforts has been focused on critical thinking and instructional methods. It has long been held that the primary means to influence critical thinking is via classroom instruction (McMillan, 1990; Paul, 1984). The assumption inherent in this belief is that if teachers use appropriate instructional methods then students will improve their critical thinking skills (Smith, 1977; Young, 1980). A few studies have researched student critical thinking ability with specific instructional methods (Terenzini, Theophilides, & Lorang, 1984; Tomlinson-Keasy & Eisert, 1977). Research to date has not been able to show significant changes in critical thinking resulting from instructional strategies (McMillan, 1990). This may have reflected poor measures, but more likely represents incomplete or imprecise models of instructional effectiveness. This brings our attention back to instructional effectiveness.

Several scholars have written about instructional effectiveness (McKeachie, 1970; McMillan, 1990). Powers (1992) wrote primarily from a training and development perspective, offering many tricks of the trade of executing and delivering training. Although this and other instructional "how to" offer some good pointers (see also: Erickson & Strommer, 1991; Katz & Henry, 1988), these works do not offer a conceptual framework for understanding the impact of leadership in the classroom in terms of student motivation and student development. Other theorists have written on the topic of college teaching without providing clear and concise models (McKeachie, 1970; McMillan, 1990). Others have focused their attention on fragments of the teaching process, neglecting either the assessment of students, selection of instructional styles and methods, or evaluations of outcomes in the learning process (Dressel & Mayhew, 1954; Glaser, 1985; Gressler, 1976; Lyle, 1958; Pascarella, 1985; Perry, 1970; Young, 1980).

The studies mentioned above have failed to provide comprehensive models that involve assessments of students' developmental and motivational needs. Although some studies have made links between student development and student behavior outcomes (Belenky, Clinchy, Goldberger, & Tarule, 1986; Pascarella, 1985; Perry, 1970), and other theorists have considered teaching behaviors and student behavior outcomes (Bonwell & Eison, 1991), few have considered the two in combination. Further, none of the educational models have

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specified contingent choices of instructors, relying instead on a universal teaching method.

In the management literature, it has been theorized that the most appropriate leadership style was contingent on the situation encountered (Bass, 1985; Fiedler, 1974). This would be true for college instructors as well, because instructors are leaders in the classroom. More recent leadership epistemology suggests that leadership style will and should reflect developmental stages of leaders and followers (Kuhnert & Lewis, 1987). This "leadership" paradigm seems appropriate for classroom encounters between instructors (as leaders) and students (as followers). Stemming from the management and leadership literature, this teaching/leadership style warrants consideration in a pedagogical model. The logical first step in choosing the best teaching style is to consider the teaching objective, and consider the needs of students to achieve this objective.

The studies mentioned focused on overall teaching effectiveness, in terms of student learning, student development of critical thinking skills, and other outcomes, overlooking the compatibility of these teaching strategies with the developmental or motivational needs of students. Given the lack of integration between student development and teaching styles, the necessity to develop such a perspective continues to grow.

Proposed in this paper is a model that views effective instruction from a leadership perspective involving a three-stage process: need assessment, style selection, and evaluation of outcomes. Assessing students' needs involves diagnosing students' developmental stages. The selection of leadership style for instructors involves choosing a style that compatibly responds to the instructor's teaching objective, whether to meet students' motivational needs or foster continued development for the student. The evaluation of outcomes considers three areas — continued student development, student motivation, and student learning. It is proposed that a leadership perspective in the classroom can lead to improved instructional effectiveness, producing outcomes that are consistent with instructor's teaching objective (e.g., increased student motivation or student development) (Fig. 1).

KEGAN'S COGNITIVE DEVELOPMENT

Kegan (1982) identifies a six-stage developmental model that integrates the work of Piaget (1972), Kohlberg (1976), Loevinger (1976), Maslow (1954), and McClelland (1975). To understand the developmental process for students, Kegan's (1982) developmental model is applied. This section describes each of these stages (links to the corresponding stages of development in the other developmental and need theorists' models can be found in Fig. 2). Kegan's stages are termed incorporative (stage 0), impulsive (stage 1), imperial (stage 2), interpersonal (stage 3), institutional (stage 4), and interindividual (stage 5).

Incorporative

During this stage in Kegan's model of ego development, individuals operate solely on reflexes, such as sensing and moving. In Stage 0 of Kegan's model, the individual recognizes no other. This stage of development is essentially similar to Piaget's (1972) sensomotor orientation, Loevinger's (1976) presocial orientation, and earliest stages of Maslow's (1954) need for physiologic survival. It is unlikely that college students would still be in this stage of development.

Impulsive

During this stage, individuals operate primarily on impulses, taking action and making decisions based on physical pleasure and pain. This stage is similar to Piaget's (1972) pre-operational orientation, Kohlberg's (1976) heteronomous morality orientation, Loevinger's (1976) impulsive orientation, and Maslow's (1954) need for physiologic satisfaction. Students in this stage of development would be motivated to gain pleasure or avoid punishment.

Imperial

During this stage, individuals operate under an assessment of self needs, interests, and wishes. This stage is essentially similar to Piaget's (1972) concrete operational orientation, Kohlberg's (1976) instrumental orientation, Loevinger's (1976) opportunistic orientation, Maslow's (1954) need for safety, and McClelland's (1975) need for power. Students in this stage are motivated by outcomes such as course grades, teacher recommendations, and items for their resumes.

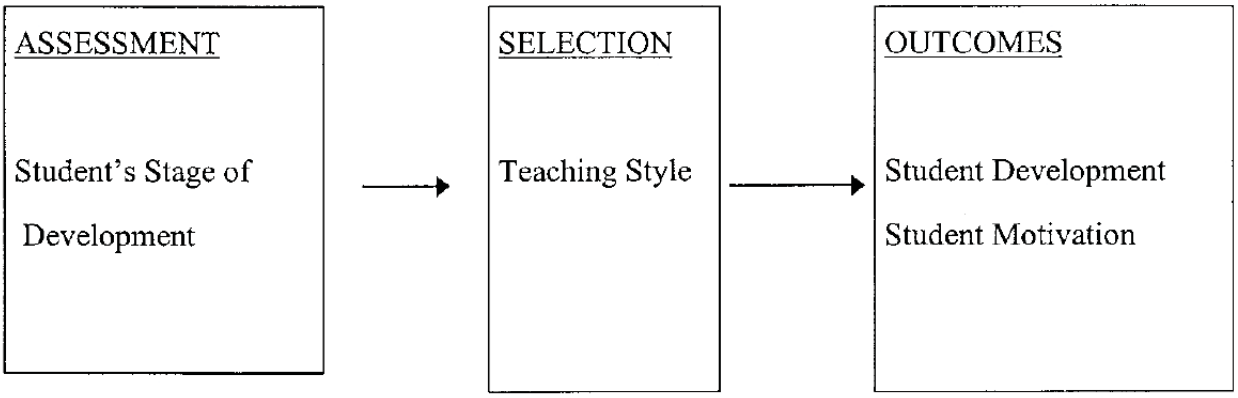

Fig. 1. The classroom leadership model.

Interpersonal

During this stage, individuals are driven primarily by the interpersonal consequences of actions. This stage is essentially similar to Piaget's (1972) early formal operational orientation, Kohlberg's (1976) interpersonal concordance orientation, Loevinger's (1976) conformist orientation, Maslow's (1954) need for love, affection, and belonging, and McClelland's (1975) need for affiliation. Students in this stage are motivated to enhance their reputation among fellow students and to get others to recognize their talents and attributes. Students in this stage pursue interpersonal connections and strive for interpersonal awareness of their skills and talents.

Institutional

During this stage, individuals are driven by authorship, self-identity, psychic administration, and ideology. This stage is essentially similar to Piaget's (1972) full formal and operational stages, Kohlberg's (1976) societal orientation, Loevinger's (1976) conscientious, Maslow's (1954) need increasing self-esteem, and McClelland's (1975) high need for achievement. Students in this stage are starting to become self-motivated learners. Their focus is on proving to themselves that they can do the work. They are motivated to pursue challenges consistent with their desires for achievement.

Interindividual

During this stage, individuals are driven by individuality and interpenetrability of self-systems, focusing on collective guiding values and principles. This stage is essentially similar to Piaget's (1972) postformal and dialectical orientations, Kohlberg's (1976) principled orientation, Loevinger's (1976) autonomous orientation, and Maslow's (1954) need for self-actualization. Students in this stage are likely to be autonomous learners. They have less of a desire to prove their competencies

Kegan (1982)	Kohlberg (1976)	Piaget (1972)	Loevinger (1976)	Maslow (1954)	McClelland (1975)
Incorporative	----------	Sensomotor	Presocial	Survival	----------
Impulsive	Heteronomous	Pre-Operational	Impulsive	Satisfaction	----------
Imperial	Instrumental	Concrete	Opportunistic	Safety	Power
Interpersonal	Interpersonal	Early Formal	Conformist	Love	Affiliation
Institutional	Societal	Full Formal	Conscientious	Esteem	Achievement
Inter-Individual	Principled	Post Formal	Autonomous	Self-Actualization	----------

Fig. 2. Conceptual links of development stages.

to themselves and others. These students are motivated more by the principles or purely moral issues than any of the other "self"centered stages of development.

LEADERS IN THE CLASSROOM

Instructors are leaders of the classroom experience (Kirby, Paradise, & King, 1992). Separate from the issues of which instructional methods should be used is the issue of which styles of leadership should the instructor adopt. While debating the many perspectives of leadership would be a fruitful and rewarding challenge, it is beyond the scope of this paper. For this paper, general development of leadership theory will be briefly described and then the discussion will move toward the model that will be used in this proposed model of instructor effectiveness.

Moving from universal process approaches, which believed that a single one best way exists to manage and lead an organization, and trait theories of leadership, which considered the exacting characteristics that successful leaders should have, to behavioral theories of leadership, which considered the specific behaviors and actions of leaders, Blake and Mouton (1964) prescribed a "9,9" style of leadership, which featured strong socioemotional and strong output considerations, would be best for all leaders in all situations. This leader is described as a manager with a high focus on task outcomes and a high focus on social and emotional needs of workers. Situational theorists such as Fiedler (1964) suggested that the most appropriate style depended on the situation, including the leader's position power, relationship with subordinates, and structure of the task. Other scholars have criticized situational theories for focusing on the leader-behavior dyadic relationships with little regard for the organizational focus or mission (Bass, 1985; Burns, 1978). The focus of these scholars was more on "extraordinary" leaders who were able to elicit performance beyond expectations (Bass, 1985; Burns, 1978) and extra role behavior (Katz & Kahn, 1978). The emphasis for leader's in this viewpoint was moving followers from individual personal interest to organizational goals (Bass, 1985). The need to consider leadership styles with developmental stages remained an unmet need in the social sciences literature until Kuhnert and Lewis (1987) proposed a model that made links between transactional leadership, transformational leadership, and Kegan's (1982) developmental stage model. This link is used in developing the proposed model. Kuhnert and Lewis' (1987) contributions and the teaching equivalents of each leadership style are described in the next section.

Leadership Styles in the Classroom

In the model proposed by Kuhnert and Lewis (1987), transactional leaders are described as those leaders who exchange rewards for specific behaviors or outcomes. These leaders rely primarily on management by exception and contingent reward systems to accomplish their means (Bass, 1985). Kuhnert and Lewis separate transactional leadership into two levels, low-order and high-order transactional leaders. Low-order transactions depend on the leaders' power based on control of resources that are desired by followers. A bargaining agreement is arranged, which exchanges these resources for a desired course of behavior. The low-order transactional leader is one who focuses on and appeals to instrumental needs of followers. High-order transactions rely on the exchange of person centered rewards to induce followers' behavior. Here the leader may be exchanging approval or camaraderie for followers' performance. A high-order transactional leader focuses on and appeals to the interpersonal needs of a follower. The transformational leader is not entering into an exchange, but rather influences followers to adopt organizational goals as their own (Bass, 1985).

The model developed by Kuhnert and Lewis (1987) links Kegan's developmental Stages 2, 3, and 4 to lower-order transactional, higher order transactional, and transformational leadership (Fig. 3). Kegan's Stage 2, imperial, features individuals focusing their attention on their personal interests, goals, and agendas. In the classroom, students in this stage may diligently pursue desired grades or may perform at the minimum required level to satisfy degree or course requirements. Kuhnert and Lewis (1987) suggest that the lower-order transactional style will meet these individuals' needs best. Along these lines, an instructor practicing a lower-order transactional leadership style will perhaps tie in success in the course (grade, recommendations, etc.) to specific types of behavior (attendance, homework, studying hard, etc.). This type of instructor will also clearly outline the means for students to obtain these outcomes.

Stage 3 of Kegan's model, interpersonal, features individuals focusing their attention on interpersonal

Stage #	Developmental Stage	Leadership Style
Stage Zero	Incorporative	Not Applicable
Stage One	Impulsive	Authoritarian
Stage Two	Imperial	Low-Order Transactional
Stage Three	Interpersonal	High-Order Transactional
Stage Four	Institutional	Transformational
Stage Five	Inter-Individual	Servant/Stewardship

Fig. 3. Developmental model of instructor-leadership style.

connections, and mutual obligations in those relationships. Individuals may be particularly interested in looking good to peers or desired reference groups when in this stage. Behavior is motivated by interpersonal connections and relationships. Students in this stage of development will be particularly interested in the opinions of the instructor and student peers and will actively engage in impression management to enhance their image. Kuhnert and Lewis (1987) suggest that a higher-order transactional leader is best suited to meeting the needs of members in this stage. An instructor practicing a higher-order transactional leadership style will be more likely to make rewards of an interpersonal nature. Teaching and evaluating in groups may represent this type of teaching style in practice. Also, if class performance begins to take on a "social" event with social rewards, then the instructor may be incorporating this style of leadership. If the class sessions are "fun", combining entertainment and social activities with social or interpersonal rewards to those who achieve well in the class, then this higher-order transactional leadership style is at work.

Stage 4 of Kegan's model, institutional, features individuals focusing their attention on personal standards and value systems. Individuals in this stage may be particularly interested in attaining levels of performance that meet their own personal standards and levels of achievement. Looking good in peers or others' eye carries less value in this stage because individuals rely on their own perception of outcomes and standards. Students in this stage of development will seek academically challenging work and will be less motivated by mundane or inapplicable material. These students have a strong desire for personal and professional development. Kuhnert and Lewis (1987) suggest that a transformational leader will link an organization's vision to the goals and personal standards of its members. Individuals will need to be made aware of how organizational achievement can be linked to their own standards of performance. Instructors practicing a transformational leadership style in the classroom will focus on class or program goals (be it the business program, MBA program, management science program, etc.) and what students can do to achieve these goals. An instructor needs to articulate an attractive vision in terms of achievement and development. Instructors here may link in-class success to long-term career success, articulating how the skills learned in class are the skills necessary to achieve the end. A transformational leader will also focus attention on the followers, giving both individual attention and challenging them intellectually (Bass, 1985). Instructors using transformational leadership in the classroom will give personalized instruction and attention to students while challenging them intellectually — encouraging them to think outside of the box.

Kegan's Stages 0, 1, and 5 (1982) are not linked to leadership styles by Kuhnert and Lewis (1987) in their model. For our purposes, we will consider these stages briefly, making some conceptual leadership links.

Stage 0 of Kegan's model, incorporative, involves infantile reflexes and as such is not likely a necessary consideration when considering developmental stages of college students. Stage 1 in Kegan's model, impulsive, involves total self-interest, as individuals respond primarily to punishment and obedience, acting mostly on impulses. Students in this stage of development lack maturity and may be detrimental to the learning atmosphere

of others. Students in this stage require an authoritarian leader. Instructors using an authoritarian leadership style will make all course decisions without seeking students' input, punish nonconforming students, and maintain a fairly strict hierarchy in the classroom between the leader (instructor) and the followers (students).

Stage 5 in Kegan's model, interindividualism, involves individuality, interpenetrability of self-systems, and principle-centered decision making. Students in this stage of development will likely be self-disciplined and self-motivated to accomplish the tasks at hand. Conceptually, individuals in this stage of development are ideal for instructors. A class filled with students in this stage of development can function pretty well without the instructor. In this sense it is important not to overexert leadership influence on students in this stage, as they are rather driven by their own aspirations and principles. Leaders who can foster professional development and intellectual growth needed by students in this stage provide enough guidance to foster learning but allow enough autonomy for personal mastery to occur. This teaching style is quite similar to the leadership approaches articulated in Block's (1993) stewardship and Senge's (1990) leadership in learning organizations (Fig. 3).

DEVELOPMENTAL PROCESS

Some argue that instructors are responsible for fostering the continued development of our students in the classroom (Perry, 1970). In this sense, instructors are developers of students. Others would disagree, suggesting that instructors should take a customer service (Deming, 1986) approach to the students, by catering to their motivational needs. In this sense, instructors are motivators of students. It is beyond the scope of this paper to address this issue fully, but the implications of each position are explored.

There is some consensus in the literature as to how individuals pass from one stage of development to the next. Kohlberg (1976) and Perry (1970) both suggest that cognitive dissonance and experiences over time move individuals to later stages of development. This exposure to fresh and new ways of looking at situations fosters on-going student development (Belenky *et al.,* 1986). Therefore, to foster student development, instructors must expose student's current thinking patterns to promote decision making and idea generation from the perspective of the next developmental stage (Bartunek & Moch, 1987; Kegan, 1982). If instructors view their role in the classroom as that of a facilitator of this cognitive development, then instruction should cater to the next stage in the student's developmental process, to create this cognitive dissonance (Fig. 4).

- Proposition 1a: Students in the imperial stage of development will have greater cognitive dissonance and, therefore, an increased likelihood of developmental stage progression when instructors practice a higher-order transactional style of leadership.
- Proposition 1b: Students in the interpersonal stage of development will have greater cognitive dissonance and, therefore, an increased likelihood of developmental stage progression when instructors practice a transformational style of leadership.
- Proposition 1c: Students in the institutional stage of development will have greater cognitive dissonance and, therefore, an increased likelihood of developmental stage progression when instructors practice a steward or servant style of leadership.

If instructors view their role of educators as primarily disseminators of information and promoters of the learning processes, then issues such as student motivation should take precedence over fostering student development. If instructors view their role as motivators of students, focusing on energizing students' activities toward gaining insight in the shared disciplines, then instructors should choose a teaching style that is most compatible with the student's developmental stages (Fig. 5). As a result, students are exposed to the types of leaders in the classroom who are able to facilitate a learning environment whereby students will be motivated and energized toward the learning process.

- Proposition 2a: Students in the imperial stage of development will have greater student motivation when instructors practice a lower-order transactional style of leadership.
- Proposition 2b: Students in the interpersonal stage of development will have greater student motivation when instructors practice a higher-order transactional style of leadership.
- Proposition 2c: Students in the institutional stage of development will have greater student motivation when instructors practice a transformational style of leadership.

SUMMARY

This paper proposes a framework for developing a leadership perspective in the classroom. It does this by

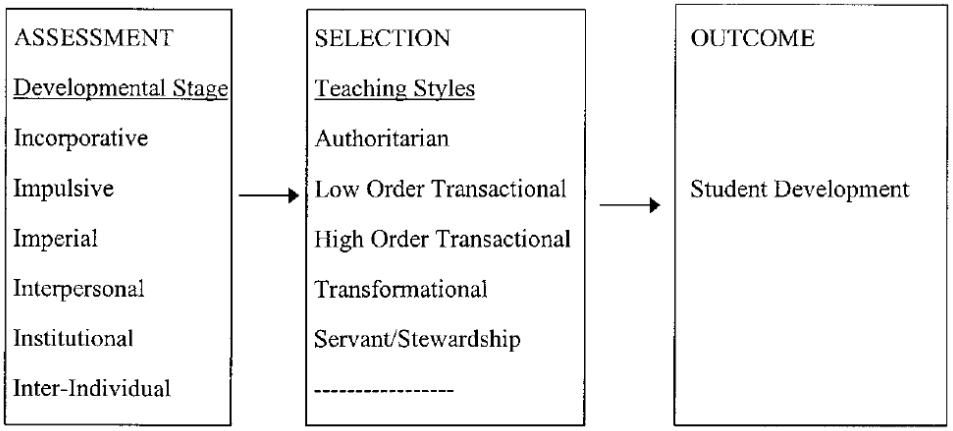

Fig. 4. Teaching styles that facilitate student development.

examining the teaching process in three continuous stages — assessment of students' developmental and motivational needs, selection of teaching style, and evaluation of outcomes. The assessment of students' needs involves consideration of students' developmental stages, using Kegan's (1982) integrative ego/cognitive developmental model. The developmental stages can be used by instructors to choose appropriate teaching styles depending on the teaching objectives of the instructor. The teaching styles are developed in part from Kuhnert and Lewis' (1987) developmental leadership framework. The final stage of the process involves an evaluation of the outcomes — learning, development, and motivation. It is proposed that utilizing the contingent teaching/leadership styles based on instructor's objectives, will promote improved student learning, and either foster student development or increase student motivation.

Instructors can use this model to make strategic instructional choices rather than relying on universal teaching styles. The major contribution of this perspective is the use of leadership theory to identify and develop teaching styles, based on the developmental and motivational needs of students. Much has been developed in the organizational behavior literature with respect to leaders fostering development and motivation for followers; these links to the classroom seem natural. This leadership paradigm in the ontology of instruction has been vastly unattended to in the management and education literature to date.

Some limitations to this model should be recognized. First, although this work presents a comprehensive and integrative model, it does not consider all factors that may be relevant in the pedagogical process. Other factors, such as class size, student's personality or student's learning styles, instructor's personality, institutional economic pressures, and resistance to change dimensions, may each impact the proposed model in unique but incremental ways. Also, this perspective considers the instructor's style without considering the specific methods of instruction (e.g., lecture method, class discussion, workshop). The teaching methods that in-

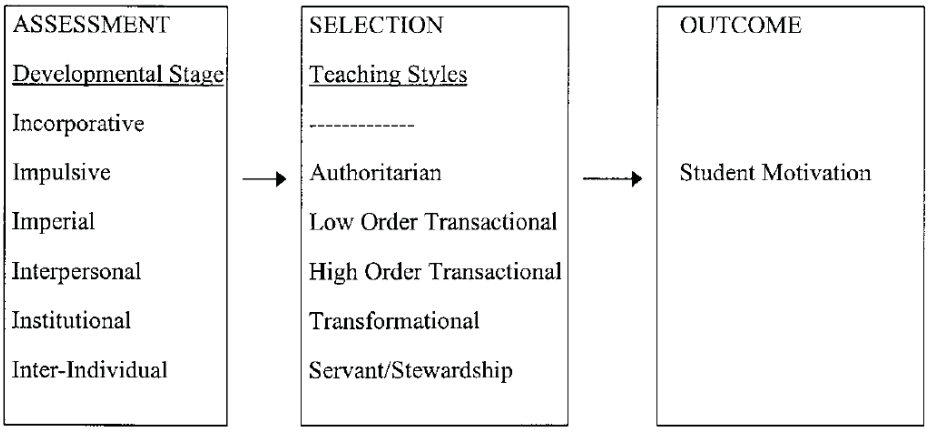

Fig. 5. Teaching styles that encourage student motivation.

structors use are separate but salient issues for classroom leaders to consider when making instructional choices.

IMPLICATIONS FOR INSTRUCTION

Instructors can use this model to choose their leadership style, based on the developmental stages of students. Depending on the teaching objectives of instructors, several implications for instruction should be considered. If instructors believe they should foster students' continued development then the model may be used to guide these efforts (see Fig. 4). If instructors believe that they should motivate students in the classroom, by catering to developmental needs, then the model may be used to guide these efforts (see Fig. 5). Instructors using teaching styles compatible with students' developmental stages may result in higher levels of student motivation in the classroom, whereas instructors using teaching styles compatible with students' latter developmental stages may foster continued student development.

IMPLICATIONS FOR FUTURE RESEARCH

Future research efforts can be guided by this model's premise that the students needs assessment involves both stages of student development and the instructor's teaching objectives. By examining the objectives of instructors (development or student motivation), the developmental stages of students, and the leadership styles of instructors in a research design, an empirically tested framework may emerge to guide future instructional strategies. The propositions developed in the paper need to be submitted to empirical test to advance our understanding of the teaching and learning process. Given the advanced state of statistical methodologies, such as path analysis and structural equation modeling, the model can be subjected to rigorous scientific inquiry. It is hoped that this work may inspire such research efforts.

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REFERENCES

Bartunek, J., & Moch, M. (1987). 1st order, 2nd order, and 3rd order change and organizational development interventions: A cognitive approach. *Journal of Applied Behavioral Science*, *23,* 483–500.

Bass, B. (1985). *Leadership and performance beyond expectations.* New York: Free Press.

Belenky, M., Clinchy, B., Goldberger, N., & Tarule, J. (1986). *Women's ways of knowing*: *The development of self*, *voice*, *and mind.* New York: Basic Books.

Blake, R., & Mouton, J. (1964). *The managerial grid.* Houston: Gulf Publishing.

Block, P. (1993). *Stewardship*: *Choosing service over self-interest.* San Francisco: Berrett Koehler Publishing.

Bonwell, C. C., & Eison, J. A. (1991). *Active learning: creating excitement in the classroom.* Washington, DC: George Washington University.

Burns, J. (1978). *Leadership.* New York: Harper & Row.

Deming, W. (1986). *Out of the crisis.* Cambridge, MA: Center for engineering studies, MIT.

Dressel, P., & Mayhew, L. (1954). *General education*: *Explorations in evaluation.* Westport, CT: Greenwood Press.

Erickson, B., & Strommer, D. W. (1991). *Teaching college freshmen.* San Francisco: Jossey Bass.

Fiedler, F. (1964). A contingency model of leadership effectiveness. In L. Berkowitz (Ed.), *Advances in experimental social psychology.* New York: Academic Press.

Glaser, E. (1985). Critical thinking: Educating for responsible citizenship in a democracy. *National Forum*, *65,* 24–27.

Gressler, L. (1976). The effect of research courses upon the attitudes and critical thinking abilities of graduate students. Unpublished doctoral dissertation, Mississippi State University. *Dissertation Abstracts International*, *37,* 3994A.

Katz, J., & Henry, M. (1988). *Turning professors into teachers*: *A new approach to faculty development and student learning.* New York: MacMillan Publishing Company.

Katz, D., & Kahn, R. (1978). *The social psychology of organizations.* New York: John Wiley.

Kegan, R. (1982). *The evolving self*: *Problem and process in human development.* Cambridge, MA: Harvard University Press.

Kirby, P., Paradise, L., & King, M. (1992). Extraordinary leaders in education: Understanding transformational leadership. *Journal of Educational Research*, *85,* 5.

Kohlberg, L. (1976). *Collected papers on moral development and moral education.* Cambridge: Center for Moral Education.

Kuhnert, R., & Lewis, P. (1987). Transactional and transformational leadership: A constructive/developmental analysis. *Academy of Management Review*, *12,* 648–657.

Loevinger, J. (1976). *Ego development.* San Francisco: Jossey-Bass.

Lyle, E. (1958). An exploration in the teaching of critical thinking in general psychology. *Journal of Educational Research*, *52,* 129–133.

Maslow, A. (1954). *Motivation and personality.* New York: Harper & Row.

McClelland, D. (1975). *Power*: *The inner experience.* New York: Irvington.

McKeachie, W. (1970). *Research on college teaching*: *A review.* Washington, DC: ERIC Clearinghouse on Higher Education.

McMillan, J. (1990). Enhancing college students' critical thinking: A review of studies. In E. Pierre, M. Riordan, & D. Riordan (Eds.), *Research in instructional effectiveness.* Harrisonburg, VA: Center for Research in Accounting Education.

Pascarella, E. (1985). College environmental influences on learning and cognitive development: a critical review and synthesis. In J. Smart (Ed.), *Higher education: Handbook of theory and research*, Vol. 1 (pp. 1–62.), New York: Agathon Press.

Paul, R. (1984). Critical thinking movement: A historical perspective. *National Forum*, *65,* 2–32.

Perry, W. (1970). *Forms of intellectual and ethical development in the college years*: *A scheme.* New York: Holt, Rinehart & Winston.

Piaget, J. (1972). Intellectual evolution from adolescence to adulthood. *Human Development*, *15,* 1–12.

Powers, R. (1992). *Instructor excellence*: *Mastering the delivery of training.* San Francisco: Jossey-Bass.

Senge, P. (1990). *The fifth discipline.* New York: Harper.

Smith, D. (1977). College classroom interactions and critical thinking. *Journal of Educational Psychology*, *69,* 180–190.

Terenzini, P., Theophilides, C., & Lorang, W. (1984). Influences on students' perceptions of their academic skill development during college. *Journal of Higher Education*, *55,* 21, 636.

Tomlinson-Keasy, C., & Eisert, D. (1977). Second year evaluation of the ADAPT program. In *Multidisciplinary Piagetian-based programs for college freshmen*: *ADAPT.* Lincoln: University of Nebraska.

Young, R. (1980). *Fostering critical thinking.* San Francisco: Jossey-Bass.