

Teachers as Facilitators: What Autonomy-Supportive Teachers Do and Why Their Students Benefit

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Abstract

Students are sometimes proactive and engaged in classroom learning activities, but they are also sometimes only reactive and passive. Recognizing this, in this article I argue that students' classroom engagement depends, in part, on the supportive quality of the classroom climate in which they learn. According to the dialectical framework within self-determination theory, students possess inner motivational resources that classroom conditions can support or frustrate. When teachers find ways to nurture these inner resources, they adopt an autonomy-supportive motivating style. After articulating what autonomy-supportive teachers say and do during instruction, I discuss 3 points: teachers can learn how to be more autonomy supportive toward students; teachers most engage students when they offer high levels of both autonomy support and structure; and an autonomy-supportive motivating style is an important element to a high-quality teacher-student relationship.

During class, students can be curious, proactive, and highly engaged, or they can be alienated, reactive, and passive. Just how engaged students are during instruction depends, in part, on the supportive quality of the classroom conditions in which their learning takes place. One crucial ingredient within the supportive quality of the classroom is the teacher's motivating style, and I focus specifically on a teacher's autonomy-supportive style. In doing so, I view children's motivation, engagement, and successful school functioning as an interpersonally coordinated process between teacher and students (Roeser, Eccles, & Sameroff, 2000). When teacher-student interactions go well, teachers function both as a guide to structure students' learning opportunities as well as a support system to nurture stu-

dents' interests and to enable students to internalize new values, develop important skills, and develop social responsibility. Under these supportive conditions, students' classroom activity is consistent with their needs, interests, and preferences, as students show strong motivation, active engagement, and meaningful learning (Deci, Vallerand, Pelletier, & Ryan, 1991; Reeve, 2002; Ryan & Deci, 2000).

Self-determination theory (SDT) guides much of the research on classroom conditions that foster versus undermine students' positive functioning. SDT assumes that all students, irrespective of their backgrounds, possess inherent growth tendencies and psychological needs that provide a motivational foundation for their optimal functioning, academic engagement, constructive social development, and personal well-being (Deci & Ryan, 1985, 1991; Ryan & Deci, 2000, 2002). The theory further assumes that students are always in active exchange with their classroom environment and therefore need supportive resources from their environment to nurture and involve these inner motivational resources. If these inner resources are neglected or thwarted, then students' motivation and engagement flounder.

The Dialectical Framework

According to the SDT framework, students possess inherent needs and growth propensities to seek out and constructively engage in their classroom surroundings. These classroom surroundings, in turn, feature a host of influences that affect students' daily motivations and longer-term motivational development, influences such as interesting things to do and an instructional agenda to follow. According to the dialectical framework within self-determination theory, a student's inner motivation and the classroom's surrounding influences are dynamically interactive (Reeve, Deci, & Ryan, 2004). Proactively, students express their inner motivational resources to engage in the learning activities and classroom challenges

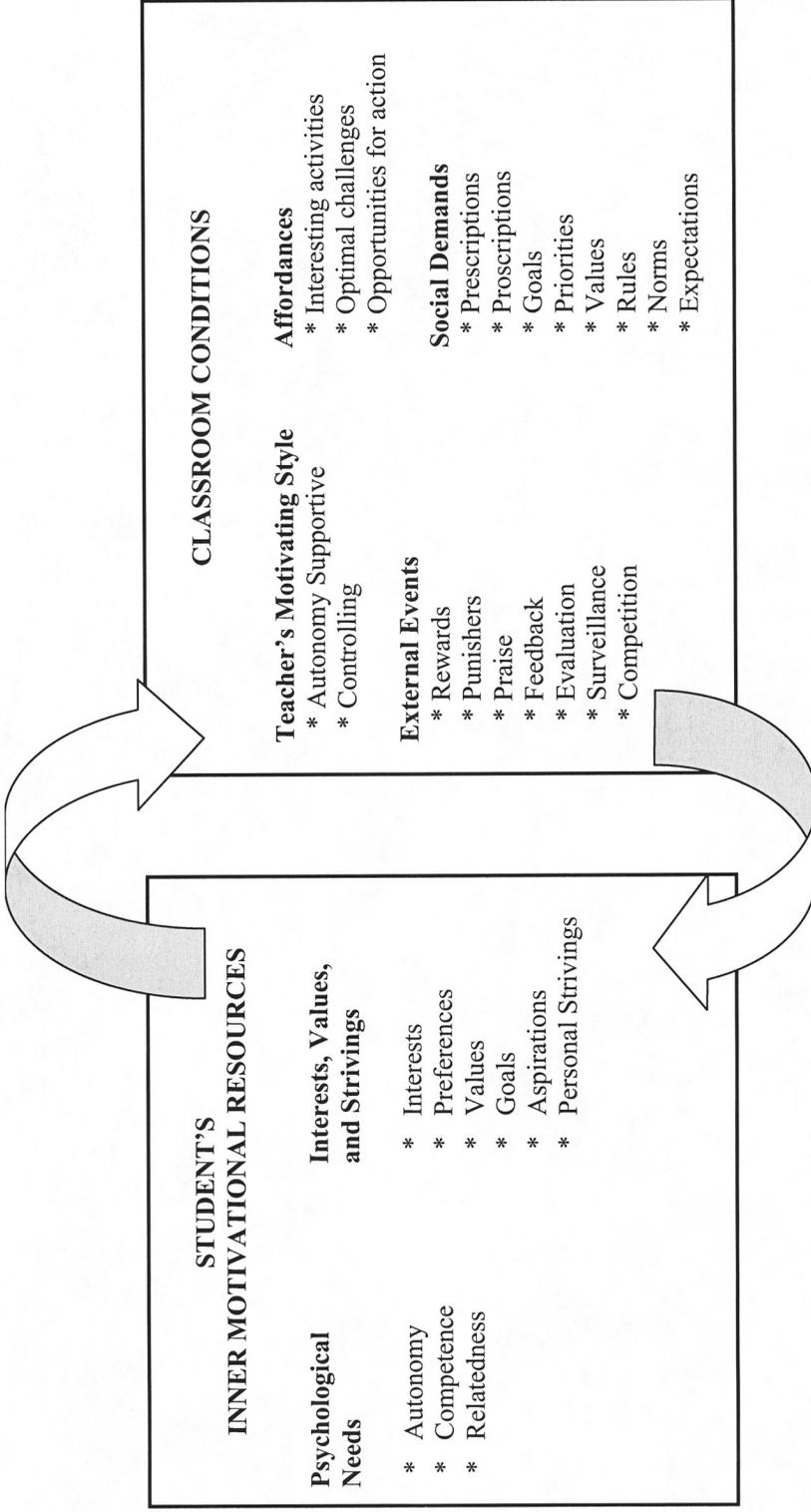
around them. These classrooms, in turn, tend either to support or thwart the expression of students' inner motivation. To the extent that classroom activities and priorities support these inner resources, the dialectical outcome will be synthesis, resulting in greater autonomy and positive functioning for students. To the extent that controlling and amotivating forces overpower students' proactive engagement, however, synthesis will be impaired and less optimal outcomes will result (e.g., external regulation, disengagement, factual rather than conceptual learning).

The dialectic framework appears in Figure 1. The upper arrow communicates that students proactively engage in classroom challenges as an expression of their inner motivational resources. That is, the upper arrow signifies students' active engagement in a learning activity as an expression of their inner motivation. The lower arrow communicates that classroom conditions sometimes nurture—but other times disrupt—these same inner motivational resources. That is, teachers and classroom events can nurture and strengthen, or thwart and weaken, students' autonomous motivation. In this dialectic, both agents constantly change. With greater synthesis, a student's needs are fulfilled by the classroom environment and the classroom environment, in turn, produces in the student new, internalized forms of extrinsic motivation to accept as her or his own. With lesser synthesis, the student's needs are thwarted by the classroom environment and the classroom context imposes external and introjected forms of extrinsic motivation on the student.

Students' Inner Motivational Resources

Some student inner motivational resources are inherent, including the psychological needs for autonomy, competence, and relatedness. Other resources, however, are internalized, including certain interests, preferences, and values. Collectively, these inner resources motivate students to engage

The proactive student engages in classroom learning activities as an expression of the self and out of a desire to interact effectively in the classroom environment.



Classroom conditions sometimes nurture and enrich the student's inner resources and positive functioning, but other times disrupt and thwart these inner resources, leading to less optimal development.

FIG. 1.—The dialectic framework within self-determination theory

in the classroom environment as an expression of themselves and out of the desire to interact effectively in it.

The "self" in self-determination theory is viewed as action and development from within (Deci & Ryan, 1991). Intrinsic motivation, for instance, spontaneously energizes important growth-fostering behaviors, such as seeking out challenges, exercising skills, and pursuing interests. Through environmental transactions, students become aware of the school culture's priorities, ideals, values, goals, requirements, prescriptions ("do this"), and proscriptions ("don't do that"). Some of these ways of thinking and behaving become valued and, hence, are internalized and personally endorsed by the student (Ryan & Connell, 1989). For the student, the self-related developmental process that occurs with such internalization is to grow or differentiate the self into greater complexity, as by developing new interests, accepting a cultural priority as one's own, and internalizing a school-based regulation or prescription ("Be punctual").

Classroom Environments

Classroom environments sometimes buttress but other times impede students' active nature and autonomous strivings. Some influences are interpersonal relationships, including teachers and the interpersonal motivating style they enact during instruction. Other influences are classroom events such as affordances (interesting activities, optimal challenges), external events (rewards, praise, feedback), and social demands (goals, norms, prescriptions).

A teacher's motivating style can be understood along a continuum that ranges from highly controlling to highly autonomy supportive (Deci, Schwartz, Sheinman, & Ryan, 1981; Reeve, Bolt, & Cai, 1999). In general, autonomy-supportive teachers facilitate, whereas relatively controlling teachers interfere with, the congruence between students' self-determined inner guides and their day-to-day class-

room activity. Autonomy-supportive teachers facilitate congruence by identifying and nurturing students' needs, interests, and preferences and by creating classroom opportunities for students to have these internal states guide their behavior. In contrast, relatively controlling teachers interfere with students' self-determination because they ask students to adhere to a teacher-constructed instructional agenda that alienates students from their inner motivational resources and instead defines what students should or must do. In doing so, controlling teachers offer extrinsic rewards and pressuring language to shape students into compliance with that agenda.

Autonomy Support in the Classroom

Autonomy-supportive environments involve and nurture (rather than neglect and frustrate) students' psychological needs, personal interests, and integrated values. Supporting these inner motivational resources is a worthwhile undertaking because students in classrooms taught by autonomy-supportive teachers, compared to students in classrooms taught by controlling teachers, experience an impressive and meaningful range of positive educational outcomes, including greater perceived competence (Deci et al., 1981), higher mastery motivation (Ryan & Grolnick, 1986), enhanced creativity (Koestner, Ryan, Bernieri, & Holt, 1984), a preference for optimal challenge over easy success (Shapira, 1976), increased conceptual understanding (Benware & Deci, 1984), active and deeper information processing (Grolnick & Ryan, 1987), greater engagement (Reeve, Jang, Carrell, Barch, & Jeon, 2004), positive emotionality (Patrick, Skinner, & Connell, 1993), higher intrinsic motivation (Reeve, Nix, & Hamm, 2003), enhanced well-being (Black & Deci, 2000), better academic performance (Boggiano, Flink, Shields, Seelbach, & Barrett, 1993), and academic persistence rather than dropping out of school (Vallerand, Fortier, & Guay, 1997).

Autonomy-Supportive Motivating Style

Self-determination theory researchers have articulated what it means to support students' autonomy in an educational setting and have identified what autonomy-supportive teachers do during instruction that differentiates their motivating style from that of their relatively controlling counterparts (Assor, Kaplan, & Roth, 2002; Deci, Eghrari, Patrick, & Leone, 1994; Deci, Spiegel, Ryan, Koestner, & Kauffman, 1982; Flink, Boggiano, & Barrett, 1990; Reeve & Jang, in press; Reeve et al., 1999; Reeve, Jang, et al., 2004; Ryan & La Guardia, 1999). An autonomy-supportive style subsumes a set of beliefs and assumptions about the nature of student motivation, and it is not a prescribed set of techniques and strategies. That said, however, the following approaches to instruction characterize what autonomy-supportive teachers say and do to support their students' autonomy and active engagement.

Nurture inner motivational resources. When teachers nurture students' inner motivational resources, they find ways to coordinate the instructional activities they offer with students' preferences, interests, sense of enjoyment, sense of challenge, competencies, and choice-making. They generally avoid external regulators such as incentives, rewards, directives, deadlines, assignments, and compliance requests. This first aspect of an autonomy-supportive style represents teachers' efforts to nurture students' intrinsic motivation and self-determined extrinsic motivation rather than trying to socially engineer non-self-determined types of extrinsic motivation.

Nurturing students' inner motivational resources addresses the motivational problem teachers face when they seek ways to initiate students' classroom activity. When introducing a learning activity, teachers hope that students will engage in that activity with effort and enthusiasm. For instance, a teacher might invite students to read a book, contribute constructively to group

work, or invest effort in a seatwork project. Autonomy-supportive teachers support students' initiative on tasks such as these by identifying and then building instructional activities around students' inner resources. If the teacher cannot spark students' interest, enjoyment, or sense of challenge, she continues to rethink how she might present that same activity so that student engagement will be more likely to include the accompanying support from students' underlying inner motivational resources.

Rely on informational, noncontrolling language. When teachers rely on informational, noncontrolling language, they communicate classroom opportunities and requirements through messages that are informational and flexible rather than controlling and rigid. Informational language revolves around information-rich, competence-affirming utterances to identify and explain why students are doing well or making progress, such as "Your writing is improving—the topic sentences you wrote today foreshadow your paragraphs really well." Noncontrolling language revolves around using communications not to push, pressure, or coerce students into compliance with the teacher's agenda but, instead, using communications to help students find ways to coordinate their inner resources with their moment-to-moment activity.

Relying on informational, noncontrolling language addresses the problem teachers face when they need to respond to students' motivational problems like listlessness, poor performance, or inappropriate behavior. To respond to displays of lackluster motivation or poor performance, a controlling teacher will generally treat poor performance evaluatively (perhaps as a target for criticism) and communicate classroom requirements through no-nonsense messages that are rigid and pressuring (e.g., "Work faster; you should've been done by now"). In contrast, autonomy-supportive teachers treat students' poor performances as problems to be solved, and they communicate classroom

requirements through a language that is informational and flexible. The goal is to help students better to diagnose the underlying cause of their poor performance and take the action needed to address the problem. For instance, a teacher might observe a student's passivity and ask, "I've noticed that you chose not to join the group's work; is anything wrong?"

Communicate value and provide rationales. When asking students to engage in a requested activity, lesson, behavior, or procedure that has little interest and value to them, autonomy-supportive teachers make a special effort to identify and explain the use, value, importance, or otherwise hidden personal utility within the undertaking that justifies an investment of effort. Teachers frequently and necessarily ask students to do things that are not intrinsically interesting and are, in fact, often unappealing (e.g., complete a worksheet, wait their turn in line, wear protective gear during a laboratory exercise). But autonomy-supportive teachers help students generate self-determined motivation by articulating why the undertaking is useful.

Promoting valuing addresses the motivational problem teachers face when they ask students to engage in a lesson or behavioral request that is an uninteresting (but important) endeavor. When autonomy-supportive teachers provide students who face an uninteresting lesson with a rationale that is convincing and satisfying (from the students' point of view), then students understand why they are being asked to invest their attention and effort in a requested activity. This understanding allows a process of internalization to occur (Reeve, Jang, Hardre, & Omura, 2002), as students essentially say to themselves "Yeah, okay, that makes sense; I'll do it." For instance, immediately before asking students to wear uncomfortable and unfashionable goggles, the teacher might explain the need to protect everyone's eyesight and that the goggles are a sure way to do that. To the extent that students agree that protecting their

eyesight is worth their time, they will in turn want to wear the goggles. Without the teacher-provided rationale, however, student motivation is too much at risk because students will understandably have a difficult time generating the motivation needed to enact an uninteresting or unvalued course of action.

Acknowledge and accept students' expressions of negative affect. Because classrooms have rules, requests, and instructional agendas that are sometimes at odds with students' preferences, students sometimes complain and resist. When teachers acknowledge and accept such feelings, they communicate an understanding of students' perspectives. They accept that negative affect is in some sense a valid reaction to imposed demands, limits, and assignments. The negative affect can actually be useful to the teacher as she plans how best to structure the learning environment to accomplish the twin goals of having students work on the classroom agenda and do so in a way that is consistent with, rather than discrepant from, their inner motivational resources. Controlling teachers, in contrast, react to students' expressions of negative affect by countering it. They communicate that such an attitude is unacceptable, something that needs to be changed to be more acceptable to the teacher.

Acknowledging and accepting students' expressions of negative affect addresses the motivational problem teachers face each time they negotiate the inevitable conflicts that arise between what students want to do and what teachers need students to do. For instance, a teacher might ask students to complete a worksheet, whereas students might want to do something else at that time. Facing such a conflict, students often express some resistance and negative affectivity. Instead of countering students' negativity with comments such as "Shape up" or "Just get the work done," autonomy-supportive teachers acknowledge and accept students' expressions of negative affect. They welcome the ensuing discussion

of how the source of resistance might be reengineered because, from a motivational point of view, it is a crucial instructional goal to transform a lesson that students view as something that is not worth doing into something that is worth doing.

Autonomy-supportive behaviors. Researchers have also identified specifically what autonomy-supportive teachers do in the classroom. The following instructional behaviors function as autonomy supports: (1) listen carefully; (2) create opportunities for students to work in their own way; (3) provide opportunities for students to talk; (4) arrange learning materials and seating patterns so students manipulate objects and conversations rather than passively watch and listen; (5) encourage effort and persistence; (6) praise signs of improvement and mastery; (7) offer progress-enabling hints when students seem stuck; (8) are responsive to students' questions and comments; and (9) communicate a clear acknowledgment of students' perspectives (Deci et al., 1982; Flink et al., 1990; Reeve & Jang, in press; Reeve et al., 1999). In contrast, the following instructional behaviors act as autonomy thwarts: (1) keep possession of and monopolize the learning materials; (2) physically exhibit worked-out solutions and answers before students have time to work on the problem independently; (3) tell students the right answer instead of allowing them time and opportunity to discover it; (4) utter directives and commands; (5) interject "should," "have to," "must," or "got to" statements within the flow of instruction; and (6) use controlling questions as a way of directing students' work (e.g., "Can you do what I showed you?").

Learning to Be More Autonomy Supportive

Identifying what autonomy-supportive teachers say and do during instruction is important because it provides a basis for offering practical recommendations to teachers who might be interested in using a more autonomy-supportive motivating

style with their own students. Early work showed that teachers' motivating styles were relatively stable over the academic year (Deci et al., 1981), but subsequent work has shown that veteran teachers can learn to expand their motivating styles to incorporate an increased use of autonomy-supportive instructional behaviors (deCharms, 1976; Reeve, Jang, et al., 2004). In these studies, after experienced teachers received a workshop-like experience on how to be more autonomy supportive toward their students, they were able to expand their use of autonomy-supportive strategies during their own instruction. Further, the more autonomy supportive teachers were toward their students, the more their students benefited in terms of subsequent classroom engagement (Reeve, Jang et al., 2004) and academic achievement (deCharms, 1976).

Overall, these findings suggest that (1) teachers' motivating styles are relatively enduring and stable aspects of their instructional style; (2) motivating styles are malleable, at least when teachers receive appropriate information in a workshop-like experience; and (3) students show educational gains in proportion to their teachers' practicing a more autonomy-supportive style.

Autonomy Support and Structure

Autonomy support revolves around finding ways to enhance students' freedom to coordinate their inner motivational resources with how they spend their time in the classroom. Its opposite is controlling students' behavior. Emphasizing autonomy support's opposite is important, because autonomy support is frequently and erroneously equated with the removal of structure (for a discussion of this issue, see Ryan, 1993; Ryan & Stiller, 1991). A lack of structure yields not an autonomy-supportive environment but instead one that is permissive, indulgent, or laissez-faire.

Structure revolves around teachers communicating clearly what they expect stu-

dents to do to achieve academic goals. It involves a teacher's offering of plans, goals, standards, expectations, schedules, rules, directions, challenges, reminders, prompts, models, examples, hints, suggestions, learning strategies, rewards, feedback, and other such sources of direction and guidance as students attempt to make progress in living up to what is expected of them (Reeve, 2005). The opposite of structure is chaos and a lack of clarity as to what students are supposed to do. Given this conceptualization of structure, it is apparent that autonomy support and structure exist as two different—not opposite—aspects of teachers' motivating styles, each of which contributes positively to students' motivation (Skinner & Belmont, 1993).

A teacher can present a highly structured learning environment to students in a way that is either autonomy supportive or controlling. By structuring a learning environment in an autonomy-supportive way, teachers provide students with clarity of what to do along with a freedom for choice, voice, and initiative; by structuring a learning environment in a controlling way, teachers clearly tell students what to do, and they do so with little voice from the students. When teachers provide students with both high freedom and high structure ("freedom within limits"; Rogers, 1969), students show a healthy profile in terms of their motivation, engagement, and learning (Grolnick & Ryan, 1987; Jang & Reeve, 2005; Koestner et al., 1984), and this is true for the following autonomy-supportive versus controlling teacher behaviors: rules (Koestner et al., 1984), praise (Ryan, Mims, & Koestner, 1983), communications (Schuh, 2004), goals (Jang, 2005), and instructional sets (Grolnick & Ryan, 1987). Each of these studies points to the same conclusion—namely, when teachers use classroom structure to control students' behavior, then students' motivation and learning suffer, but when teachers use the same aspect of classroom structure to support students' autonomy, then students' motivation and learning thrive.

Rather than existing as opposites, autonomy support and structure work well together because structure facilitates in students an intention to act (e.g., "I plan to read the book"), whereas autonomy support allows those formulated intentions to be self-determined and coordinated with one's inner resources (e.g., "I plan to read the book and enjoy the experience; reading is something I want to do").

Teacher-Provided Autonomy Support and the Teacher-Student Relationship

Though there is no one best way to teach, some ways in which teachers relate to students are more likely to promote engagement, learning, achievement, and well-being than are other ways (De Wolff & van Ijzendoorn, 1997; Kochanska, 2002; Main, Kaplan, & Cassidy, 1985). Figure 2 summarizes an exhaustive review of the literature on motivating styles, parenting styles, attachment patterns, moral development, and prosocial orientations to identify four relatively high-quality ways of relating to students. To some extent these four teacher characteristics overlap, but research shows that each characteristic further contributes to students' positive academic functioning in a unique way.

Attunement occurs when teachers read and sense students' state of being and adjust their instruction accordingly; a synonym for attunement is sensitivity (De Wolff & van Ijzendoorn, 1997; Kochanska, 2002). When teachers are attuned to their students, they know what students are thinking and feeling, how engaged they are during a learning activity, and whether or not they understand the lesson. Attuned teachers know these things because they listen closely to what their students say and make a special effort to be aware of what their students want and need. This sensitivity allows the teacher to be responsive to students' words, behaviors, needs, preferences, and emotions. *Relatedness* is a sense of being close to another person; it occurs when teachers create the conditions in which

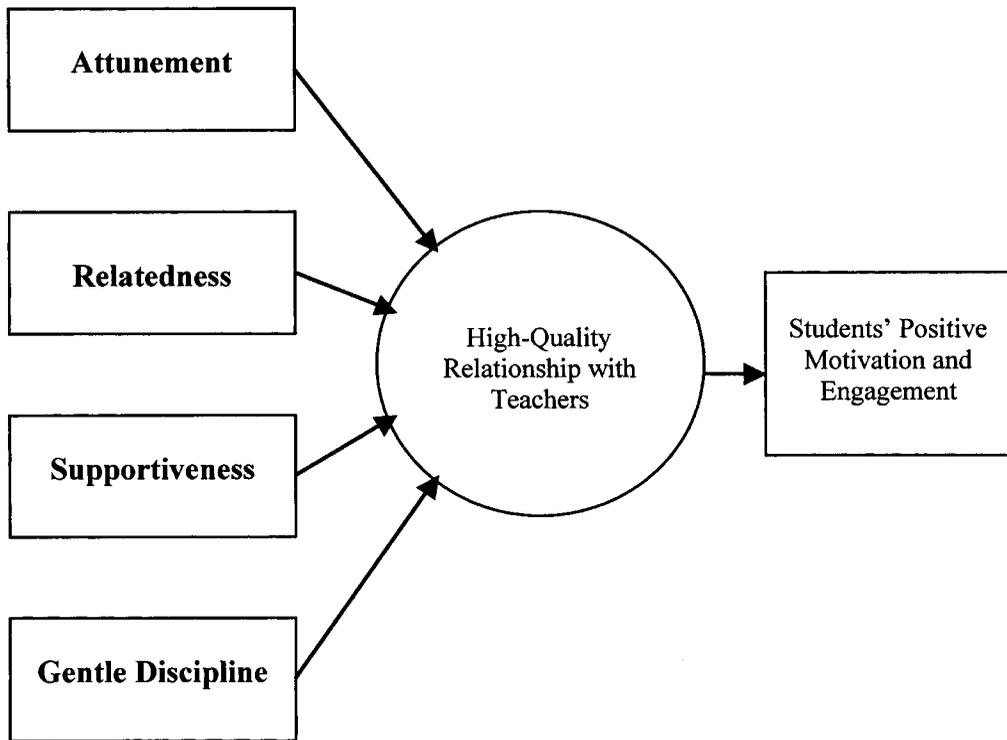


FIG. 2.—Four teacher characteristics within the provision of a high-quality teacher-student relationship

students feel special and important to the teacher; it revolves around a teacher-provided sense of warmth, affection, and approval for students (Furrer & Skinner, 2003). When students feel related to their teacher, they show lesser negative affectivity and greater classroom engagement. *Supportiveness* is a teacher's affirmation of a student's capacity for self-direction. When they support their students' capacities for self-direction, teachers accept students as they are, provide encouragement, and assist them in their efforts to realize the goals they set for themselves. Supportiveness is important to students' school success because the more supportive teachers are, the more competent students feel, the more creative they are, the greater they feel in control of their learning, and the more engaged they are during learning activities (Koestner et al., 1984; Reeve, 1996; Ryan & Grolnick, 1986). Finally, *gentle discipline* is a supportive socialization strategy that involves

guiding and explaining why one way of thinking or behaving is right and another is wrong. Its opposite is *power assertion*, which is a controlling socialization strategy that involves forceful commands and an insistence that students comply with the teacher's request or demand (Kochanska, Aksan, & Nichols, 2003).

Given this general perspective on how teachers might offer students a high-quality relationship, an interesting question is how teacher-provided autonomy support contributes to the teacher characteristics shown in Figure 2. Some autonomy-supportive acts of instruction can be seen as attunement, including making a special effort to identify students' inner motivational resources, listening carefully to what students say, and asking students questions about what they would like to do. Other autonomy-supportive acts can be seen as gentle discipline, such as providing rationales and accepting students' expressions of

negative affect. Most autonomy-supportive instructional behaviors, however, can be seen as supportiveness. When supportive, teachers nurture students' inner motivational resources, rely on informational rather than controlling language, allow students time to work in their own way, create opportunities for students to exercise and communicate their own voice, praise progress, encourage effort, provide progress-making hints and suggestions, and are responsive to students' suggestions and comments (Reeve & Jang, in press).

When considered as a whole, the exercise of an autonomy-supportive motivating style adds substantial and significant insight to the more general understanding of what it means to be supportive toward students. Researchers in educational psychology, child development, attachment theory, and moral socialization know a great deal about what it means to provide attunement, relatedness, and gentle discipline, but the concept of supportiveness has proven harder to conceptualize. The subject of the present article—what an autonomy-supportive motivating style is and how its exercise benefits students—offers new insights for teachers who ask how they can be more supportive of their students.

Conclusion

The study of a teacher's autonomy-supportive motivating style and the study of the student-teacher dialectical framework within self-determination theory are important because an autonomy-supportive style represents the prototype of the sort of interpersonal relationship that facilitates students' autonomous motivation and classroom engagement. In this article I tried to make five points about such a motivating style and its benefits to students: (1) Research has shown what autonomy-supportive teachers say and do during instruction. (2) These autonomy-supportive acts of instruction enhance students' autonomy and engagement. (3) An autonomy-supportive motivating style is malleable—it can be

learned. (4) Autonomy support and structure complement, rather than interfere with, one another, to cultivate in students autonomous intentions to act. (5) Teacher-provided autonomy support constitutes a pivotal element in offering students a high-quality, growth-promoting relationship.

Collectively, these five points lead to the conclusion that students benefit when teachers act as facilitators of their inner motivation—facilitators who structure the learning environment in ways that nurture, involve, and expand on (rather than neglect, thwart, and bypass) their inner motivational resources.

References

- Assor, A., Kaplan, H., & Roth, G. (2002). Choice is good, but relevance is excellent: Autonomy-enhancing and suppressing teacher behaviours predicting students' engagement in schoolwork. *British Journal of Educational Psychology*, *72*, 261–278.
- Benware, C., & Deci, E. L. (1984). Quality of learning with an active versus passive motivational set. *American Educational Research Journal*, *21*, 755–765.
- Black, A. E., & Deci, E. L. (2000). The effects of instructors' autonomy support and students' autonomous motivation on learning organic chemistry: A self-determination theory perspective. *Science Education*, *84*, 740–756.
- Boggiano, A. K., Flink, C., Shields, A., Seelbach, A., & Barrett, M. (1993). Use of techniques promoting students' self-determination: Effects on students' analytic problem-solving skills. *Motivation and Emotion*, *17*, 319–336.
- deCharms, R. (1976). *Enhancing motivation: Change in the classroom*. New York: Irvington.
- Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality*, *62*, 119–142.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M., (1991). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska symposium on motivation: Perspectives on motivation* (Vol. 38, pp. 237–288). Lincoln: University of Nebraska Press.

- Deci, E. L., Schwartz, A., Sheinman, L., & Ryan, R. M. (1981). An instrument to assess adults' orientations toward control versus autonomy in children: Reflections on intrinsic motivation and perceived competence. *Journal of Educational Psychology*, *73*, 642–650.
- Deci, E. L., Spiegel, N. H., Ryan, R. M., Koestner, R., & Kauffman, M. (1982). Effects of performance standards on teaching styles: Behavior of controlling teachers. *Journal of Educational Psychology*, *74*, 852–859.
- Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist*, *26*, 325–346.
- De Wolff, M., & van Ijzendoorn, M. H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development*, *68*, 571–591.
- Flink, C., Boggiano, A. K., & Barrett, M. (1990). Controlling teaching strategies: Undermining children's self-determination and performance. *Journal of Personality and Social Psychology*, *59*, 916–924.
- Furrer, C., & Skinner, E. A. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology*, *95*, 148–162.
- Grolnick, W. S., & Ryan, R. M. (1987). Autonomy in children's learning: An experimental and individual differences investigation. *Journal of Personality and Social Psychology*, *52*, 890–898.
- Jang, H. (2005). *Preserving and enhancing students' autonomy by delivering directed instruction in an autonomy-supportive way*. Unpublished manuscript, University of Iowa, Iowa City.
- Kochanska, G. (2002). Mutually responsive orientation between mothers and their young children: A context for the early development of conscience. *Current Directions in Psychological Science*, *11*, 191–195.
- Kochanska, G., Aksan, N., & Nichols, K. E. (2003). Maternal power assertion in discipline and moral discourse contexts: Commonalities, differences, and implications for children's moral conduct and cognition. *Developmental Psychology*, *39*, 949–963.
- Koestner, R., Ryan, R. M., Bernieri, F., & Holt, K. (1984). Setting limits on children's behavior: The differential effects of controlling versus informational styles on intrinsic motivation and creativity. *Journal of Personality*, *52*, 233–248.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research. Monographs of the Society for Research in Child Development*, *50*(1–2, Serial No. 209).
- Patrick, B. C., Skinner, E. A., & Connell, J. P. (1993). What motivates children's behavior and emotion? Joint effects of perceived control and autonomy in the academic domain. *Journal of Personality and Social Psychology*, *65*, 781–791.
- Reeve, J. (1996). *Motivating others: Nurturing inner motivational resources*. Boston: Allyn and Bacon.
- Reeve, J. (2002). Self-determination theory applied to educational settings. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination theory* (pp. 183–203). Rochester, NY: University of Rochester.
- Reeve, J. (2005). Extrinsic rewards and inner motivation. In C. Weinstein & C. Evertson (Eds.), *Handbook of classroom management: Research, practice, and contemporary issues* (pp. 645–664). Hillsdale, NJ: Erlbaum.
- Reeve, J., Bolt, E., & Cai, Y. (1999). Autonomy-supportive teachers: How they teach and motivate students. *Journal of Educational Psychology*, *91*, 537–548.
- Reeve, J., Deci, E. L., & Ryan, R. M. (2004). Self-determination theory: A dialectical framework for understanding sociocultural influences on student motivation. In D. M. McInerney & S. Van Etten (Eds.), *Big theories revisited: Research on sociocultural influences on motivation and learning* (pp. 31–60). Greenwich, CT: Information Age.
- Reeve, J., & Jang, H. (in press). What teachers say and do to support students' autonomy during a learning activity. *Journal of Educational Psychology*.
- Reeve, J., Jang, H., Carrell, D., Barch, J., & Jeon, S. (2004). Enhancing students' engagement by increasing teachers' autonomy support. *Motivation and Emotion*, *28*, 147–169.
- Reeve, J., Jang, H., Hardre, P., & Omura, M. (2002). Providing a rationale in an autonomy-supportive way as a strategy to motivate others during an uninteresting activity. *Motivation and Emotion*, *26*, 183–207.
- Reeve, J., Nix, G., & Hamm, D. (2003). Testing models of the experience of self-determination in intrinsic motivation and the conundrum of choice. *Journal of Educational Psychology*, *95*, 375–392.
- Roeser, R. W., Eccles, J. S., & Sameroff, A. J. (2000). School as a context of early adolescents' academic and socio-emotional development: A summary of research findings. *Elementary School Journal*, *100*, 443–471.
- Rogers, C. R. (1969). *Freedom to learn*. Columbus, OH: Charles E. Merrill.

- Ryan, R. M. (1993). Agency and organization: Intrinsic motivation, autonomy and the self in psychological development. In J. Jacobs (Ed.), *Nebraska symposium on motivation: Developmental perspectives on motivation* (Vol. 40, pp. 1–56). Lincoln: University of Nebraska Press.
- Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology*, 57, 749–761.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78.
- Ryan, R. M., & Deci, E. L. (2002). An overview of self-determination theory: An organismic-dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3–33). Rochester, NY: University of Rochester Press.
- Ryan, R. M., & Grolnick, W. S. (1986). Origins and pawns in the classroom: Self-report and projective assessments of individual differences in children's perceptions. *Journal of Personality and Social Psychology*, 50, 550–558.
- Ryan, R. M., & La Guardia, J. G. (1999). Achievement motivation within a pressured society: Intrinsic and extrinsic motivations to learn and the politics of school reform. In T. Urdan (Ed.), *Advances in motivation and achievement* (Vol. 11, pp. 45–85). Greenwich, CT: JAI.
- Ryan, R. M., Mims, V., & Koestner, R. (1983). Relation of reward contingency and interpersonal context to intrinsic motivation: A review and test using cognitive evaluation theory. *Journal of Personality and Social Psychology*, 45, 736–750.
- Ryan, R. M., & Stiller, J. (1991). The social contexts of internalization: Parent and teacher influences on autonomy, motivation and learning. In P. R. Pintrich & M. L. Maehr (Eds.), *Advances in motivation and achievement: Vol. 7. Goals and self-regulatory processes* (pp. 115–149). Greenwich, CT: JAI.
- Schuh, K. L. (2004). Learner-centered principles in teacher-centered practices? *Teaching and Teacher Education*, 20, 833–846.
- Shapira, Z. (1976). Expectancy determinants of intrinsically motivated behavior. *Journal of Personality and Social Psychology*, 34, 1235–1244.
- Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology*, 85, 571–581.
- Vallerand, R. J., Fortier, M. S., & Guay, F. (1997). Self-determination and persistence in a real-life setting: Toward a motivational model of high school dropout. *Journal of Personality and Social Psychology*, 72, 1161–1176.