From *Why Students Resist Learning:*
A Practical Model for Understanding and Helping Students
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The following is an excerpt from the unedited manuscript.

Chapter 1

Defining and Understanding Student Resistance

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As Hollywood would say, the following narrative is based on a true story. In a coffee shop in the student union of a southern U.S. university, two professors waited their turn at the order counter. One professor turned to the other and loudly stated, "They [students] think they are more intelligent than they are." His colleague "more than agreed", saying things like, "Yeah, they're really dumb." As they continued this interchange, grousing about student performance and behavior, the students around them became increasingly angry. The students standing in line both in front and behind this academic duo reported to another professor about their feelings in this situation. One said, "How can you help students when deep down you feel they aren't worth it? You can see I am still pissed hours later." Another student stated, "Who do they think they are? Do they think they are better than us? . . . And they're teaching us when they don't believe in us? . . . If they weren't professors I would have turned around and told them to go to hell. It was easy to see who the dumb ones in line really were" (Schmier, 2013).

While it might seem obvious to explain this situation as the result of two arrogant professors (i.e. jerks) behaving in an insensitive manner, this unfortunate scenario presents an opportunity to explore the systemic nature of student resistance and how it can impact on student learning, including the reciprocal impact of professor and student behaviors. Certainly, the students in the coffee shop were expressing resistance to being labeled by the professors, and it is conceivable that a wariness or reluctance to engage in other classes could result from this encounter. One common error that faculty often make when discussing student resistance is to assume that resistance is a *student* behavior. While there is some truth to this - the students are the ones who are *manifesting* resistant behavior - the etiology of resistance is more complex. As we will demonstrate in the coming chapters, student resistance is the outcome or result of a confluence of forces including institutional context, faculty attitudes and behaviors, faculty reactions to student behaviors, and powerful forces that drive and shape student expectations and reactions.

Unfortunately, these systemic elements and interactions are not immediately visible to an instructor; they are not as attention-grabbing as a student complaining in one's office or refusing to participate in a class activity. Manifestations of student resistance to learning are a frequent source of conversation among faculty, much of it not very positive or uplifting. Yet, in reviewing the multifaceted literature on resistance, one is struck by the similarity to a famous comment from Justice Potter Stewart of the U.S. Supreme Court regarding the difficulty of legally defining pornography; the justice noted that it is difficult to articulate a clear definition, but "I know it when I see it." Similarly, the teaching literature does not provide a specific definition of student resistance; instead, specific behavioral examples of resistance are often provided along with suggestions for understanding resistance and tips for working with it. Some good cases in point

include Felder and Brent (1996) who note that enthusiasts of student-centered or learner-centered instruction are in for a "rude shock" when they begin to actually implement updated pedagogies in the classroom. They advocate for this shift in teaching, but they also state that while these approaches offer significant benefits to students, such benefits are "neither immediate nor automatic" and explain that instructors need to be prepared for a "painful odyssey" as they work with students to implement engaged teaching.

Similarly, Doyle (2008) writes about resistance as the "biggest challenge" facing instructors. He provides a list of reasons why students may resist but never defines student resistance in any cogent way. Weimer (2013) focuses an entire chapter in her widely read book on learner-centered teaching on student resistance. She explains that often students respond negatively to changes in course design in ways that may leave teachers "disheartened" or using behaviors that instructor's may experience as a "personal affront." She proposes four major reasons why students may resist and suggestions for what to do. While these observations and tips are useful, they do not necessarily advance a nuanced and coherent understanding of what student resistance is, how it works, where it comes from, and ways to systematically assess and intervene to benefit instructors, students, and society.

Student resistance is not an outcome that we can afford to discuss in general terms any longer. It is time to grapple with it in a comprehensive and detailed way. The purpose of this book is to provide classroom instructors, faculty developers, administrators and interested others with a conceptual framework, a model that explains why student resistance occurs and offers ideas for assessment and intervention. Through better understanding of student resistance to learning opportunities, instructors can react in ways that do not increase or contribute to it, and they are empowered to make better decisions on how to change or alter their teaching designs or

approaches to reduce student resistance and improve learning. Institutions can more effectively develop new policies and strategies that reward and encourage a shift towards learner-centered pedagogies in classrooms throughout institutions of higher education. Let us begin by providing what the existing literature does not: a definition of what we are talking about.

What is Student Resistance?

As a starting point, we define *student resistance* as follows:

> Student resistance is an outcome, a motivational state in which students reject learning opportunities due to systemic factors. The presence of resistance signals to the instructor the need to assess the systemic variables that are contributing to this outcome in order to intervene effectively and enhance student learning.

Based on this definition, our goal in the upcoming chapters is to explore the systemic factors that interact and contribute to resistance and to bring a practical framework to understanding resistance that we hope will make this definition meaningful.

As we progress towards this goal, we want to begin with some points of clarification. Resistance is a motivational *state* and an *outcome* of multiple interacting factors; it is not a *trait* that endures over time or is part of a student's personality or genetics. This definition implies that it is dynamic and fluid, influenced by ongoing interactions and situations between the student, the professor and student peers. It can even change within a single class period depending on what happens! Consider an example: a student who normally demonstrates a low level of resistance to class participation and assignments misses more answers on a quiz than she expected. She becomes defensive and softly complains to her peers sitting nearby about the quiz and the professor making the class too difficult. At least for the moment, this situation increases

the student's low level of resistance to a higher level and may make her more likely to resist learning new information or participating actively in a class assignment or activity.

Thus, student resistance can fluctuate in reaction to events going on both in the students' lives and in the classroom. While some students may manifest resistant behaviors from the beginning of the course and are fairly consistently over time, the example of the reactive student informs us that resistance is not limited only to those students who faculty might characterize as "unmotivated" (a trait characterization). Resistance can and does occur even in the "best" students, those who sincerely want to learn the material. In all cases of resistance, we suggest that the causes of resistant behaviors may be more complex than teachers tend to assume.

Similarly, student resistance should be recognized and considered a *signal* of something happening in the classroom and/or within the students. Too often, instructors react to manifestations of resistance as though it were noise, background static that disrupts the "communication" signal the faculty member is trying to get across, usually content. Like road noise in our cars when we are listening to music or pop-up ads on our laptops, this purported "noise" is often responded to with frustration and a desire to just bypass it and move on to the "important stuff." However, what if the resistance *is* the important stuff? In the field of psychotherapy, there has been growing recognition that when patients resist the suggestions and direction provided by a counselor, this is a signal of an underlying issue that must be addressed if progress is to be made. Similarly, if instructors can learn to recognize when resistance is occurring, even increasing, they should probably dedicate time to figuring out what forces are leading to this outcome and take steps to acknowledge, assess, and reduce the resistance.

Students have the same problem, often ascribing their own motivation to resist learning as caused by external factors in their lives, or at school. The ability to recognize their own

resistance and to evaluate the sources that are contributing to it may also help them to interact more effectively with their instructor and peers, enhancing their learning. When students and especially professors mislabel the resistance as noise instead of as signal, they perpetuate a status quo in which students are not learning; such a stance may even lead to increased resistance.

The last point of clarification emphasizes the distinction between motivation and behavior. As noted in the definition, we consider resistance to be a motivational state rather than a grouping of behaviors. Without a model, a framework, for understanding the forces that contribute to and generate resistance, it is easy to equate resistance with behaviors because these behaviors are salient, easily visible in the teaching environment. However, if resistance is the same as behavior, how do we explain the various and complex manifestations of different behaviors that have been labeled in the literature as resistance?

In their seminal work, Kearney and Plax (1992) note that historically student resistance was considered equivalent to student misbehavior, almost universally characterized as rebelliousness. In contrast, they argue that resistant behaviors could be either constructive or destructive. They also claim that constructive resistance enhances student on-task behavior, although they acknowledge that it may be difficult for instructors to accept this idea. These investigators and their colleagues (see Burroughs, Kearney, & Plax, 1989) further subdivide resistant behaviors into Teacher-Owned and Student-Owned behaviors. With respect to these investigators and their significant contributions, especially the idea of constructive resistance, we believe their classification system ignores the motivational basis for student behaviors. Resistance is a type of motivation that shapes and guides behaviors. The following matrix illustrates our conceptualization and provides some specific examples of behaviors (Table 1.1).

Table 1.1 Forms of Student Resistance Matrix		
	Asserting Autonomy Pushing against external influence Emotions: anger, frustration, resentment	**Self-preservation** Trying to accommodate to external influence Emotions: anxiety, fear
Active Resistance	*Arguing or disagreeing with professor in the classroom* *Repeatedly asking for the rationale for assignments* *Saying they paid for the class and want it taught how they like* *Inciting other students to rebel or not collaborate; disrupting class activities* *Complaining to higher authority*	*Repeatedly asking for detailed clarification of grading criteria* *Taking over group assignments to ensure an adequate grade* *Arguing with the professor over grades received, seeking additional points or consideration* *Focus on surface approach to learning*
Passive Resistance	*Refusing to come to class* *Refusing to participate during in-class exercises (does not get into groups, does not comply with assignment tasks)* *Does not turn in assignments at all or is consistently late* *Complaining about the professor to other students*	*Expressing concerns about working with others* *Avoidance of conflicts and refusing to resolve situations or bring them to the professor's awareness* *Minimal participation in class (withdrawn, doesn't speak or give feedback, lets others make all decisions)*

In Table 1.1, the columns represent two major types of motivational strategies. In the first, a student is focused on asserting her own autonomy. Such motivation could arise from a reaction to or interaction with many factors including professor misbehaviors, embedded racism in society or the classroom, or the personal experiences of the student growing up such as family pressure to attend college. The student resists learning opportunities because she sees them as part of an oppressive system trying to force her into a way of thinking she does not accept or to meet capricious requirements with no real rationale behind them. Thus, the student rejects external demands whether they come from the university's requirements to take a specific course (e.g. general education or program prerequisite) or a professor's required homework. Common

emotional responses that accompany this motivation are frustration or anger. The oft-heard student complaint about perceived "busy work" is an expression of this frustration.

The second motivation occurs when a different set of forces interact. For example, a student may have been raised to please authority, or perhaps he believes he is a carrier of his family's hopes for economic advancement. Possibly, he feels unprepared for college, unsure of his capabilities, and is focused on trying to "just get through" his classes to achieve a degree. Even a student with goals for high achievement may experience this type of motivation, viewing any threat to a high or perfect grade as a personal risk to his self-esteem or, alternatively, as endangering his future (getting into medical school). The emotional responses that accompany this form of motivation tend to be related to anxiety or fear. Students may try to avoid complex assignments, challenges to what they already know, or course requirements that push them beyond their comfort zone, in order to maintain their sense of security in achieving their goals.

These two basic forms of motivation may then be expressed in different ways, depending on the student's background or possibly the institutional culture, including the classroom. Some students may express their motivation using assertive or direct action, including confrontation, or they may be passive in that they do not involve direct interaction with the professor. The self-preservation motive may also involve specifically avoid direct interactions with peers such as via peer review or collaborative learning. Thus, it is possible for students to assert their autonomy and to push back against external influences using passive behaviors to achieve their goals. In Kearney and Plax's (1992) paper, they give good examples of 19 "student resistance techniques" that easily could be included in the Forms of Student Resistance matrix. They also note that their data indicates that most students tend to prefer more passive strategies, a conclusion that fits with our own observations. Given that instructors hold the power to control grades, many students are

reluctant to engage in direct confrontation with an instructor out of concern that it could have a detrimental effect on achieving their degree.

Some authors in fields such as the sociology and psychology of education describe resistance in a more complex way, that includes specific aspects of motivation. For instance, Kim (2010) summarizes the neo-Marxist critiques of previous theories of education by explaining that student resistance could be seen as a rejection of the social status imposed on students by society. Later authors pointed out motivational aspects related to a student's ethnicity, gender, or other characteristics (see Kim, 2010). In educational psychology, Brown and Gilligan (1992) described resistance as a healthy coping strategy for females and classified resistant behaviors as either psychological or political. Looking across these various classification systems, there is recognition of the role of motivation in understanding student resistance; further, despite the various disciplinary perspectives that created them, the definitions of resistance we are aware of appear to fit reasonably well into the resistance matrix.

Regardless of the ways that various fields categorize resistant behaviors, the ultimate message for instructors is that student resistance is *communicative* (see Kim, 2010); the manifestation of either active or passive resistant behaviors signals the instructor that there is an underlying motivation and that multiple factors are contributing to that resistant behavior. We are not implying that students resist in order to communicate a specific message to the professor, although this could happen; in most cases, students are likely unaware of why they are resisting learning opportunities. It is also important to acknowledge that in some cases, especially with passive resistance, students may emit behaviors that are intended to *disguise* or conceal the signal such as appearing to be taking notes on their laptop while actually reading Facebook posts.

This type of obscured signal is more likely to occur in lecture-focused classrooms or in large classes where anonymity is easier to achieve and where the students aren't personally and directly involved in a learning activity. It is also more difficult to hide in an active learning classroom, such as one using Team Based Learning (Michaelsen, Knight, & Fink, 2004), where students are involved with each other and the professor is actively facilitating team learning and interacting with students. However, in those environments professors need to be aware that passive resistance can still occur, but it may take different forms, such as not speaking or contributing to a team's discussion.

Regardless of the specific form resistance takes, when instructors accept that resistant behaviors signal important aspects of a student's motivation and the presence of important *underlying* forces, they can adapt their own behaviors and the structural elements of their courses (e.g. assignments, timelines, use of class time) to reduce that resistance and enhance learning of both content and key life skills. Resistant behaviors tell us, as instructors, some very important things about our students, and by seeking to better understand and elicit that communication signal, we can become more effective teachers.

Moving Toward a Systemic Understanding of Student Resistance

Now that we have defined resistance, we are better able to "know it when we see it." However, in the quest to avoid becoming the coffee shop instructors, we need to move towards a conceptual model, a framework for understanding not just the student motivation for resisting, but the underlying forces and interactions that are generating it. In order to help the reader better understand the need and benefits of moving from more simplistic explanations of student resistance to more systemic explanations, we will utilize an overarching framework borrowed

from a giant in education, John Dewey. Long ago, Dewey and Bentley (1949) provided useful way to categorize and evaluate most of the approaches we have discussed and will discuss.

As summarized by Abowitz (2000), Dewey and Bentley (1949) described three modes of inquiry for understanding an event or a given behavior: self-action, interaction, and transaction. Self-action explanations assume that the origins of a behavior can be found in the individual, or in the words of Abowitz, "things are viewed as acting under their own power" (2000, p. 878). In education, this means that instructors interpret or explain student resistance based on the assumption that students are acting on their own, under their own power; the choice to resist is grounded in an individual decision by a student for personal reasons. Here is an example: early in the semester, an instructor asks students to get into collaborative groups; a student throws up his hands and then states loudly, "When are you going to start really teaching instead of making us do all of the work?"

From a self-action perspective, one could conclude that this student is choosing to resist group work and has decided to express his concerns in a confrontational manner. He could be seen, or labeled, as a stubborn student, one who does not really want to learn, one who is lazy, or as a student who is concerned mostly about his grade (tell me what will be on the exam). All of these explanations share an assumption that his behavior is emerging from internal sources; he is acting according to his own agenda and choices, conscious or not. This type of explanation is probably common among faculty, and there is a temptation for the instructor to jump to one of these explanations. However, this interpretation omits contextual factors that may also be influencing the student's behavior including the influences of his peers, the institutional context of his college, and the instructor's own behaviors. Omitting consideration of these other influences and relationships makes the task of explaining the student's behavior faster and

simpler, and it excuses the instructor from worrying what she may have done to contribute to the behavior. However, adopting a self-action explanation might lead the instructor to respond in such a way that the student's resistance may continue or even increase. Giving some thought to the influences of others on behavior leads us to the interaction perspective.

In the interaction inquiry mode (Dewey & Bentley, 1949), an object can cause or influence another object to behave in specific ways, such as those described by Newtonian laws of motion. This type of interaction is also present in human relationships. We do not act based solely on intrinsic motives (self-action). We often react directly to the behaviors of others, both emotionally and behaviorally. The interaction inquiry mode has been widely used by resistance theorists (see Kim, 2010 and Abowitz, 2000) as a way to understand the dynamics of resistance in education. To these theorists, resistant student behaviors (mostly Asserting Autonomy) may denote a challenge to attempts by the dominant society to train students to behave according to their appointed social roles or status, represented by instructor behavior or institutional policies.

For example, a teacher's offhand or even unintentional racist comment might trigger a student to argue with a point the teacher was making regardless of the content. In an effort to assert autonomy, the student may begin to dismiss other course elements as irrelevant or biased. Alternatively, if a student requests to complete an assignment using a different path to the same learning outcome and is told by the professor that there are no exceptions and that she needs to do the work as assigned, she may begin to manifest resistant behaviors in a wide variety of situations. These examples illustrate how resistance may signal an attempt to assert one's autonomy against the dominant power of the instructor.

Communication theorists have also revealed some important ways that professor-student relationships shape learning and resistance. In this literature, "immediacy" refers to the amount

of interpersonal warmth and social connection that an instructor demonstrates towards students. Burroughs (2007) found that students manifested less resistance with immediate instructors versus non-immediate instructors. Other investigators (see Kearney, Plax, Hays, & Ivey, 1991) have evaluated the role and impact of teacher misbehaviors, primarily incompetence, offensiveness, and indolence, on student reactions and classroom resistance.

By understanding that sometimes students may be reacting to *our own* misbehaviors, including not adequately preparing students for tasks or not helping them understand the reasons for assignments (see Doyle, 2008), we may discover opportunities to alter our behavior to enhance student learning. By understanding the important role that immediacy plays in fanning or dampening student resistance, we can seek to develop our social connection with students. The interaction perspective gives us a lens to see new opportunities to become more effective mentors of student learning.

Last, consider the transactional perspective. This perspective is systemic, subsuming both the self-action and the interaction perspectives and expanding the explanation beyond the individual or the immediate interactions between one or more persons. The transactional perspective gives us a broader view of what is happening in the classroom because it reminds us that history and cultural forces are present in the classroom at all times. Take the case of the disgruntled student who views group work as a waste of time and an abdication of a professor's responsibility to "teach". Many students who resist group work do so because a history of prior negative experiences with study groups or class teams; out of fear for their grades, some may have shouldered disproportionate (and stressful) responsibility for assignments because peers were socially "loafing". Group meetings, such as study groups, may have been mostly exercises in social posturing and relaxation rather than on-task focused activities. Thus, students' personal

histories, their own experiences with a type of "learner-centered pedagogy", has actually given them reason to reject it as a useful approach to learning.

To be honest, some of the valid reasons that students reject group or collaborative work may be the fault of professors who have not prepared or structured these activities to enhance the probability of success or have not prepared students adequately to use these methods. An instructor who is unaware that students may embody a history of negative experiences may not realize that taking time at the beginning of the semester explaining how to be successful in study groups or teams and providing structure to enhance success is vital for these learner-centered activities to be effective (see Sibley & Ostafichuk, 2014; Oakley, Felder, Brent, Elhajj, 2004).

This extended example illustrates a complex, systemic interaction of forces including the student's own personal history and experience, the experiences of others on his assigned team, their combined skills in social interaction, and the professor's design and structure of the course as well as her degree of immediacy and time spent preparing students to participate. Other forces might also influence the outcome including the student's level of cognitive development, his personal inclinations and preferences for social interaction, the degree to which he feels welcome and a part of the institution and the class, and his own awareness of his role and part in the negative experiences with previous teams.

Additionally, some students, especially those who are first generation, at-risk, or culturally disadvantaged, may have experienced of rejection or marginalization from peers and authority figures like professors. Unfamiliar with the academic environment, they may not understand how to succeed or access available resources that might enhance their chances of success. They may feel socially isolated and anxious about looking incapable by asking for help. These cultural and historical forces may then interact with professors and *their* own level of

awareness of cultural issues and diversity. Some instructors may understand these issues, recognize their manifestations, and demonstrate acceptance of the reality of students' lives while others may not recognize how these forces may be present and might make the situation worse by either denying these realities, or by blaming the students, even unconsciously, for their difficulties in adapting to the classroom environment.

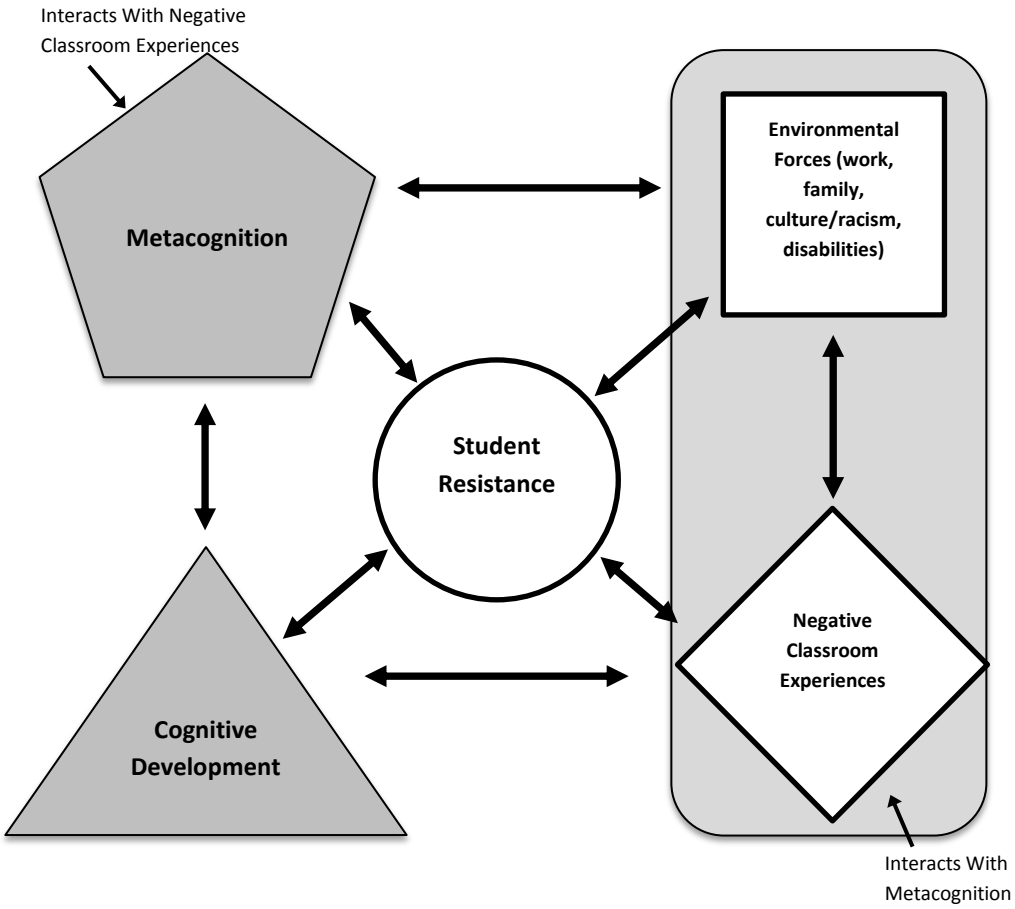
None of this level of awareness or understanding is achievable if we focus on explaining resistance mostly at the level of self-action or even at the level of interaction. In contrast, the transaction or systemic perspective accepts all these factors as part of the explanation for the student's resistance while maintaining the ability to separate these elements and address them individually. The transactional perspective was foundational in the creation of the Integrated Model of Student Resistance (IMSR; first described in Tolman, 2011).

A Coherent Model for Understanding Student Resistance

As its name suggests, the Integrated Model of Student Resistance (IMSR) was created to integrate a diverse literature on student resistance into a coherent understanding of the factors leading to student resistance. It consists of five separate elements which are divided into external social and cultural forces and situations that affect students' expectations and performance, and internal factors that occur within the minds of the students themselves (see Figure 1). While each of these five elements is grounded in its own literature and has its own connections to student resistance, it is also clear that these elements interact actively with one another, shaping for good or ill, the intensity of student resistance. External factors include situations and pressures that may interact with student characteristics or may directly shape student expectations, generate or create stress, and/or compete for student attention and resources. They include environmental and cultural forces such as family history, cultural identity, social class, and other forces; the

contextual influences of institutions of higher education on both faculty and students that affect behavior and how classes operate; and the students' own prior negative classroom experiences that influence how they view active learning approaches. Internal forces are divided into an element on cognitive development, that frames how students perceive education and knowledge and affects their ability to perform, and a metacognitive element reflecting students' understanding and awareness of how they learn and their readiness to adopt more effective learning strategies. As indicated in Figure 1.1, all elements of the IMSR are part of a system, meaning that they interact to either generate student resistance or to reduce it.

Figure 1.1 Integrated Model of Student Resistance



In a system, individual elements contribute to the whole (resistance) but they are simultaneously *interdependent*, so that something that affects one element (e.g. sexist comments) also affects the system as a whole, leading to the aphorism of the whole being greater than the sum of its parts (or less in the case of negative interactions). In the case of student resistance, a student's personal biases, gender, ethnicity, previous and current classroom experiences, level of cognitive development, degree of metacognitive awareness of their own learning and mastery, and the background cultural context of the institution they attend (e.g. teaching institution or research institution, party school, etc.) all interact and shape the degree of student resistance to learning. For example, a negative interaction with a professor in class, perhaps one who is low in immediacy, controls all aspects of the learning environment, and is focused mostly on their research and not their teaching, can increase the perceived value and relevance of a student's pre-existing expectations and increase the student's fears of failure, leading to increased resistance. These elements affect the student's willingness to believe that he is capable of becoming a more effective learner and may make it more difficult for him to develop cognitively; this can also affect future resistance, especially in active learning environments. Even worse, the instructor may become increasingly frustrated with student resistance and not know how to act to reduce it.

The flip side of this example is that of a warm and caring instructor who designs a learning environment that promotes students' metacognition of their own learning, acknowledges their uniqueness due to gender, cultural background, and previous experiences, and who involves students in critical learning decisions. Such an instructor could have a significant influence on reducing student resistance and promoting cognitive development. The fact that systemic or transactional interactions are interdependent means that interventions do not need to target every single element in the system to achieve a change. An instructor who has access to a coherent,

systemic model of resistance, such as the IMSR, is better able to assess the elements of the system in their students, recognize that each student is different in the factors that may be contributing to their resistance, and may therefore select more effective targets for intervention.

The IMSR is necessary because the literature does not currently offer a comprehensive framework. A reading of teaching-related publications suggests that the topic of resistance is being addressed more explicitly (e.g. Dembo & Seli, 2004; Doyle, 2008; Weimer, 2013; Sibley & Ostafichuk, 2014), but while these authors offer useful information and strategies, they do not offer an integrated systemic model for understanding resistance. For example, Doyle (2008) describes student resistance to learning as due to 8 causes: old habits die hard, high schools remain teacher-centered institutions, learning is not a top reason students give for attending college, students do not like taking risks, learner-centered teaching does not resemble what students think of as school, students do not want to put forth the extra effort that learner-centered teaching requires, students' mind-sets about learning make adapting to learner-centered teaching more difficult, and many students follow the path of least resistance in their learning.

While some items on Doyle's list acknowledge the social and cultural impact of at least high school on student thinking, most of these purported causes are self-action statements: the problem lies within the students. To be fair, in his explanation of these causes, Doyle (2008) describes the role of intrinsic vs. extrinsic motivation in how schools shape student behavior. However, he does not do justice to the role of interactions between students, peers, and instructors, the influence of the environment within the college itself (not just what it inherits from high schools), or the way that multiple influences interact and build on each other.

Other work of relevance to understanding student resistance has also been published, for example Claude Steele's summary of his work on stereotype threat and how it influences the

emotions and behaviors of minorities (Steele, 2011) or Nelson's (2010) description of nine common "dysfunctional illusions of rigor" often held by college professors that shape instructor attitudes and behaviors, often interacting in subtle ways with cultural forces. For example, Nelson describes the first of these dysfunctional illusions as the idea that difficult courses should exist to "weed out" unprepared students and that student failure in these courses is largely due to lack of preparation, insufficient effort, or lack of ability in the subject. He then illustrates the fallacy of this approach using a study by Triesman (1992) that found a **60%** rate of D, F, or withdrawal of black students enrolled in Calculus at the University of California at Berkeley. Closer examination revealed that struggling students were following a common instructor recommendation to study two hours out of class for every class hour and were studying alone. Triesman changed the pedagogy by inviting these students into *honors* homework sections requiring group work with a resulting drop to only 4% of these students finishing with a D, F, or withdrawal. Nelson's (2010) point is that the failure of these students in this "rigorous" course was actually due to poor pedagogy, not to student lack of ability or preparation.

These published reports are valuable for those who have been exposed to them, but this work has not been well integrated into the teaching literature with regard to student resistance even though there are clear links between them, and these explanations are not systemic in that they do not take into account a more comprehensive range of systemic elements. In contrast, the IMSR can effectively explain and integrate the findings discussed above while adding relevant elements that are missing from these other explanations in a way that leads to practical application.

In using the IMSR, we suggest instructors consider the model as a whole but begin with the elements they encounter most in their classrooms or institutions. This can give a productive

starting point for making adjustments to courses and teaching practices that can be expanded as the instructor's understanding and experience increase. For example, instructors teaching introductory or general education courses might benefit especially from considering cognitive development and environmental forces while those who teach upper division courses might consider negative classroom experiences and ways to enhance student metacognition. Administrators might benefit from focusing on the institutional culture element and then expanding their understanding of how it influences other environmental forces and negative classroom experiences. At the same time, it is important to recognize that systems, themselves, often resist change and attempt to restore equilibrium, so interventions should be intentional, persistent, and involve continuous learning. As the nurse manager of a facility where Tolman once worked remarked when asked how he would achieve a change in the nursing culture: "Gentle persuasion, relentlessly applied."

With a comprehensive framework such as the IMSR in his head, an instructor is better positioned to apply that gentle persuasion via assessment of the sources of resistance from the students in his own classroom and effective intervention, escaping the clutches of the human biases that beset all of us. In other words, the IMSR can not only improve our interactions with our students and promote their learning, it may just save us all from becoming the focus of angry students in a campus coffee shop.

We also note that the IMSR has undergone a few changes following its creation, most notably the brilliant addition of the Institutional Context element suggested by Dr. Janine Kremling, co-editor of this book, as well as input from the students who participated in this project. The model has been presented in several venues (Tolman, 2011; Tolman, 2012; Tolman & Sorensen, 2012; Tolman & Sorensen, 2013; Tolman, Lee, Blair, and Smart, 2014) in order to

receive further feedback and to refine the nature of the interactions in the model. We express our appreciation for those who have clarified and helped us make the model more useful.

The Road Map for the Book

The first three chapters of this book are introductory. Chapter 2 consists of the reflective stories of students who participated in the student resistance research project as well as commentary on the stories; the students describe situations that affected their own resistance to learning as well as how contributing to this book increased their awareness of, and their ability to learn from that resistance. It is a testament of the power of metacognition in shaping students' thoughts, feelings, and behaviors. Student experiences and reactions are the heart of the book, and in this chapter, readers get to hear from them directly.

In Chapter 3, the authors describe several key obstacles that often prevent instructors, students, and administrators from recognizing resistance. These obstacles are usually grounded in powerful patterns of human biases that can be changed but only through awareness and intentional effort. Once we can see past our biases, we can begin to acknowledge the urgent need to deal with the issue of resistance and recognize the cost to individual students and society if we continue to ignore it or accept simplistic individualized (mostly self-action) explanations. Resistance is not only a concern for a student's grade in a particular class; the failure to identify and reduce student resistance is vital for everyone to understand, whether they are involved in higher education or not.

The specific five elements of the IMSR will be explored in detail in Chapters Four through Nine. As displayed in Figure 1 above, these five elements are: environmental forces, negative classroom experiences, institutional culture, cognitive development, and metacognition.

In the IMSR, both Environmental Forces and Negative Classroom Experiences are embedded in a matrix of Institutional Culture. This represents how these elements are shaped and influenced by the culture of the institution. From the time when students first interact with the campus, the values, mission, and culture of an institution begin to shape their expectations and behaviors. How they are treated by others (peers, staff, and faculty) and whether they feel a part of the college may may confirm or threaten their self-efficacy beliefs. Even aspects of institutional culture that are hidden from view, such as an emphasis on research productivity above teaching, or financial considerations that drive decisions impacting on professors and/or the physical environment, can have a powerful emotional impact on students. Institutional Culture is discussed in depth in Chapter 4.

The element of Environmental Forces is broken down in Chapters 5 and 6 into two sub-areas because of the complexity involved. Chapter 5 is focused primarily on external societal and environmental forces that impact on student desire to learn, focusing on the examples of race, class, and gender and how these intrinsic aspects of personality and identity interact with the social learning environment. Chapter 6 examines how identity as well as societal elements are internalized, shaping student attitudes, expectations, and beliefs about their own capabilities to learn as well as the role and purpose of education. These environmental forces are important because they can be overlooked or minimized by faculty who are primarily concerned with content delivery and assume that all students enter college on an "equal playing field".

In Chapter 7, the authors expand on the preliminary discussions above regarding how a history of negative situations and interactions between instructor, students and peers can impact on student learning. Some of these interactions are shaped and influenced by environmental forces as well. Students often carry forward these negative experiences as expectations into

future classrooms, increasing resistance to active pedagogies and potentially contributing to future negative experiences for both instructor and peers.

The authors of Chapter 8 focus on how students' current level of Cognitive Development affects their perceptions of the purpose of education and their ability to understand the rationale behind course assignments and design. The emphasis in the chapter is on understanding where students are in this developmental process and how a student's level of development shapes resistance to learning. This perspective can help an instructor recognize why one student may strongly resist a type of assignment while another may embrace it. The authors review the major contributions in this area from William Perry (1970), King and Kitchner (1994), and Baxter Magolda (1992) and discuss ways that instructor can assist students in their cognitive maturation and reduce resistance.

The last element of the model, described in Chapter 9, focuses on the role of student metacognition in resistance. While investigators have documented the foundational role of metacognition in student learning (see Bransford, Brown, & Cocking, 2000), many instructors do not intentionally include this element as a core part of their teaching or course design. Building primarily on the work of Carol Dweck (2000), findings from neuroplasticity, and assessment methods developed to help students become aware of their learning patterns, including innovative new instruments developed by Tolman (2009), the authors describe how promoting student metacognition can reduce student resistance to learning and enhance the depth of their understanding of themselves and course content.

The book concludes in Chapter 10 by suggesting the IMSR as a model for institutional change and strategic planning. By understanding what aspects of institutional culture may be increasing or reducing student resistance, faculty, staff and administrators can make decisions to

benefit student learning and motivation to succeed. The authors propose six broad strategies for institutional change and link them to the elements of the IMSR. In this way, the IMSR provides a new perspective, an alternative way to view institutional efforts to achieve key outcomes such as student learning, retention, and persistence to graduation.

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