

# Motivating Students by Design

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Practical Strategies for Professors

Brett D. Jones

**Chapters 3, 4, 5, 6, 7, and 8 are not available in this PDF. Please go to [www.amazon.com](http://www.amazon.com) to purchase the entire book.**

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Second Edition

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# Acknowledgments

We learn about motivation from those around us from the time we're born. So from that perspective, I'm thankful for all of the individuals with whom I've spent a lot of time over the years, including my two brothers, my parents, my grandparents, my wife, and my children. And, I've learned from my college roommates and other friends over the years. I would also like to thank many former students for allowing me to try some good and not-so-good motivation strategies on them. Similarly, my doctoral students and faculty colleagues have helped me refine my thinking about motivation and have collaborated with me on many different research projects. Many of these students and colleagues are listed with me as co-authors of the publications in the *References* section of this book.

The text of this book was strengthened by the comments of my reviewers, including Sehmuz Akalin (Educational Psychology doctoral student, Virginia Tech), Noel Byrd (Project Director in the Office of the Executive Vice President and Provost, Virginia Tech), David Grant (Associate Professor, Virginia-Maryland College of Veterinary Medicine, Virginia Tech), and Stephan Munz (Educational Psychology doctoral student, Virginia Tech). Thank you for your edits and advice!

I have written and edited the second edition of this book entirely on my own; therefore, you may find some mistakes throughout the book. Please excuse my minor mistakes. I've checked it in detail several times, but I'm not perfect. By doing everything myself, I'm able to reduce the production costs of the book, which results in a less expensive book for you. I figured a missing period or two here and there wouldn't bother you if you saved a few dollars! And really, I don't make much money off the sale of the book. My primary motivation for writing the book is to help professors improve their instruction, so that ultimately, students are more engaged in their courses and learn more.

# Dedication

This book is dedicated to all the bad teachers and professors I've had over the years. Without them, I would never have had the inspiration to want to improve instructors' teaching, especially at the college level where I attended some pretty bad lectures.

I would also like to dedicate this book to all the good teachers I've had over the years. Without them, I wouldn't have the knowledge and skills necessary to write this book. Fortunately, I had more good teachers than bad ones. I would especially like to thank my parents for being the best teachers of all. Only now as a parent can I begin to understand all of the sacrifices my parents made for my education and well-being.

## New to the Second Edition

This second edition of the book is about 75% longer than the first edition because I added a couple chapters, included new strategies and examples, and updated several sections, as summarized here.

- Chapters 2 and 3 are mostly new to this edition, as are a few paragraphs in Chapter 1. In Chapters 2 and 3, I explain the MUSIC® Model of Motivation more completely and how it can be used to design instruction.
- In Chapters 4 to 8, I included 47 new examples of instructional strategies and provided more explanations in some of the examples from the first edition.
- Near the beginning of Chapters 4 to 8, I included a “Relevant Theories” section in which I provide a very brief explanation of some of the primary theories that are most directly relevant to the strategies discussed in that chapter. I acknowledge that my brief descriptions are entirely insufficient to completely explain the theories; however, the descriptions should provide you with a general sense of the theories and include references if you’re interested in learning more about the theories.
- In Chapter 9, I updated the research citations and provided a little more explanation throughout.



# Introduction

Do your students need to be motivated to engage in your courses? Probably so. As Evelyn Van de Veen (2015) noted: “even at one of the most prestigious universities of the world [Harvard], you cannot take student motivation or student effort for granted” (para. 3). And even if your students are motivated to do well in your course and have the best intentions, they may have other goals and obligations that compete for their attention and time. So what can you do to help them engage more fully in your courses? The motivation strategies and model presented in this book are intended to answer this question. The fundamental concepts behind these strategies are based on decades of research and they’re intended to provide you with guidance as you design and implement instruction.

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## Is teaching an art or science?

You may have had some excellent teachers who seemed to have a one-of-a-kind teaching ability. Or maybe you’ve read about outstanding teachers in books or seen them in movies, on television, or online. Some people believe that excellent teachers are born with a natural teaching ability or that they possess some unknowable qualities. I contend, however, that although teaching is an art that can take many different forms, it is based firmly in a science that is knowable, at least to some extent.

Some teachers may learn the science of teaching on their own based on their prior experiences as a student or as a teacher through trial and error. Others may learn this science through coursework, books, articles, or websites. These types of experiences can provide teachers with the tools necessary to become a successful “artist.” Similar to how excellent artists use their tools to craft beautiful art works, so too must you use the strategies in this book to craft your teaching.

The aim of this book is to give you some of the scientific knowledge needed for your craft. It's up to you to use this knowledge creatively in ways that are appropriate for your course context and that fits your unique background and personality.

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## Who is the audience for this book?

This book is intended to be read by any type of instructor that teaches students of any age. However, the examples provided throughout the book are most directly related to college professors. I use the term “professors” in this book as a broad term to include professors, teachers, lecturers, instructors, and anyone who designs and implements instruction for learners in higher education. The strategies in this book have been found to be useful to both novice and more experienced professors.

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## What are the purposes of this book?

I titled this book *Motivating Students by Design* because the premise of the book is that professors can motivate students by designing their courses intentionally. Over the years, research has provided evidence for this premise (Wentzel & Wigfield, 2009). In this book, I explain how professors can use the *MUSIC® Model of Motivation* (Jones, 2009), which is a model that I developed to help professors in all disciplines intentionally design instruction to motivate students.

The purposes of this book are to:

- describe five important research-based principles related to motivating students;
- explain these five principles succinctly, but in enough detail to allow you to understand the mechanisms by which they work;
- provide general guiding strategies that will allow you to implement these principles in your teaching; and
- provide several examples of these strategies with the hope that you will be able to use some of them, or modify them for use, in your teaching.

To achieve these purposes, I used a format that I thought would be most readable to busy students and professors. Consequently, I focused on the purposes above and was guided by the goals listed in Table 1.1.

**Table 1.1.** *Goals of this Book*

<b>This book is intended to...</b>	<b>This book is <u>NOT</u> intended to...</b>
<ul style="list-style-type: none"> <li>• explain how to implement teaching strategies consistent with current motivation research and theories,</li> <li>• build on your current teaching successes,</li> </ul>	<ul style="list-style-type: none"> <li>• explain everything known to man and woman about every motivation theory,</li> <li>• drastically change your teaching approaches (unless your teaching is very poor, in which case you might want to try some drastic changes!!),</li> </ul>
<ul style="list-style-type: none"> <li>• teach you what you need to know to effectively motivate your students,</li> <li>• give you control to read the chapters and strategies that are most relevant to your teaching,</li> <li>• be succinct and rather informal, and</li> <li>• summarize the implications of current motivation-related research and theories.</li> </ul>	<ul style="list-style-type: none"> <li>• teach you everything you need to know to become a successful professor,</li> <li>• be read linearly from cover to cover (although it can be),</li> <li>• be a formal weighty tome, and</li> <li>• include many studies that show similar results and provide hundreds of academic references.</li> </ul>

In the first edition of this book I intentionally avoided explaining too many motivation theories. However, because some readers have an interest in using this book as a resource for motivation theories, I included short explanations of motivation theories throughout this edition. I have identified the theory sections as “Relevant Theories” to allow you to find these sections easily if you’re interested and to allow you to skip them if you’re uninterested.

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## How should you read this book?

You should definitely read Chapters 2 and 3 because they provide a key foundation that you’ll need to understand how to effectively implement the strategies presented in the other chapters. You can simply select strategies in this book without reading Chapters 2 and 3, but they may not work if you don’t understand the mindset needed to implement them effectively.

Chapters 4 through 8 focus on motivation strategies related to specific aspects of the motivation model presented in Chapters 2 and 3. You can read Chapters 4 through 8 in any order because they don't build on one another cumulatively. You will know which ones you need and want to read after reading Chapters 2 and 3. In the final chapter, Chapter 9, I provide a little more background and research related to the motivation model presented in this book. You only need to read this chapter if you're interested in the background research.

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## **Why are quotations from famous individuals included throughout the book?**

The quotations included throughout the book serve several purposes. All of the quotations are intended to relate to the topic of the section in which they appear. Some of the quotations are meant to reinforce the ideas in the section. Other quotations are meant to get you thinking more about the ideas in the section. And other quotations are intended to be humorous.

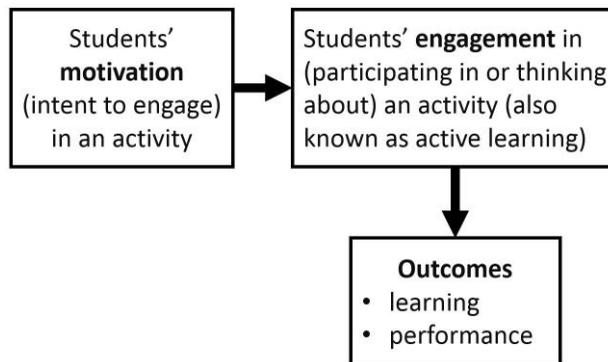
# Understanding Motivation and the MUSIC® Model of Motivation

To effectively implement the strategies in this book, you need to understand the basic principles of motivation in education and the MUSIC® Model of Motivation. In this chapter, I briefly define motivation and explain the MUSIC® Model of Motivation.

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## What is motivation?

Motivation is the extent to which one intends to engage in an activity. Once individuals are engaged in an activity, their motivation can increase, decrease, or stay the same, depending on the extent to which they intend to *continue* to engage in it. When individuals continue to engage in an activity over time, we may say that they are persistent, determined, or have grit. Engagement is important because it most directly affects outcomes such as learning and performance (see Figure 2.1). Increased learning and performance is important because they are almost always the primary goals of college courses.



**Figure 2.1.** *The relationship between motivation, engagement, and outcomes*

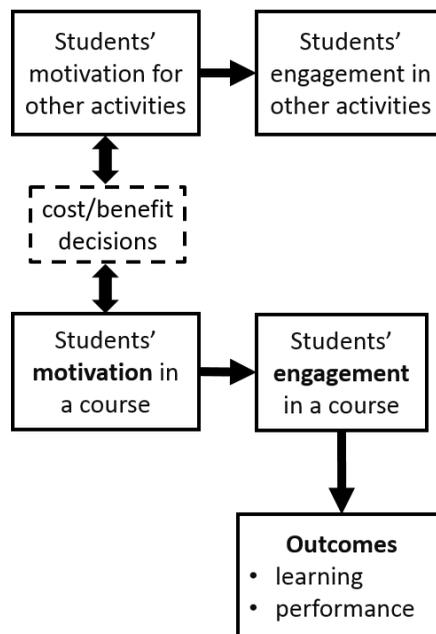
Let's look at these four underlined parts of the definition of motivation more closely: Motivation is the extent to which one intends to engage in an activity.

- Extent: The *extent* part of the motivation definition refers to the magnitude of the intent, which has been referred to as the “energizing of behavior” (Hebb, 1955, p. 244). The extent of an individual's motivation for an activity can vary along a continuum from no motivation to high motivation. When the magnitude of the intent is high, people say things like, “He's really motivated to do that.”
- Intent: Motivation is considered an *intent* because it describes what individuals intend to do, not what they have already done (Christenson, Reschly, & Wylie, 2012). Once individuals *engage* in an activity, motivation refers to their intent to *continue* to engage in the activity. Many motivation scientists consider motivation to be a goal-directed process because individuals' intentions often (or maybe always) emanate from their goals.
- Engagement: Individuals engage in an activity by *participating* in some aspect of the activity, which is why it is sometimes referred to as “active learning” (Chi & Wylie, 2014). Participation can be labeled *behavioral* engagement because it can be observed, such as when students take notes in class (Fredricks, Blumenfeld, & Paris, 2004). Individuals also engage by *thinking about* some aspect of the activity, which is why this type of engagement is labeled *cognitive* engagement. Cognitive engagement is often unseen by observers. Consider the case of a student who is looking out of a window during a lecture but is thinking deeply about the ideas presented in the lecture. This student may appear to be behaviorally unengaged, but in fact, s/he is very cognitively engaged in thinking about the content.
- An activity: Individuals intend to engage in particular activities, not all activities. Therefore, the activity in which individuals intend to participate indicates the direction of their motivation. In other words, individuals direct their motivation towards particular activities to reach their goals. Students who are motivated by the goal of “getting an A” might engage in activities such as coming to class and taking notes during class.

I like to use this definition of motivation when talking to professors because it succinctly captures the essence of what I believe that many instructors mean when they refer to motivation. And, this definition is consistent with current theoretical and empirical research about the relationship between motivation and engagement (e.g., Anderman & Patrick, 2012; Froiland & Davison, 2016; Froiland & Worrell, 2016; Reeve, Jang, Carrell, Jeon, & Barch, 2004; Schunk & Mullen, 2012). Although

this is a good, practical definition of motivation for instructors, it does have some limitations. For example, this definition of motivation doesn't address how individuals' *unconscious* intentions interact with and affect their conscious intentions. However, it is beyond the scope of this book to address this level of breadth and depth within the field of motivation.

So far, my explanations have focused on individuals' motivation to engage in activities with only one goal in mind; however, individuals are motivated to engage in many different activities towards many different goals. Consider the motivation of your students. They're probably motivated to engage in a lot of different activities, such as participating in other college courses, playing sports, playing video games, working, eating, sleeping, and hanging out with friends and family. Because it's only feasible to engage in one or a couple activities at a time (e.g., eating and hanging out with friends), students are constantly making decisions about which activities to engage in by weighing the costs and benefits of each. Figure 2.2 shows how students' cost and benefit analysis and decisions can be represented in the MUSIC model.



**Figure 2.2.** *Individuals weigh the costs and benefits of different activities when deciding in which activities to engage.*

Let's assume that the bottom part of Figure 2.2 (which is similar to Figure 2.1) demonstrates students' motivation for and engagement in *your* course. When students are motivated in your course, the bottom arrow pointing to the right shows that they're more likely to engage in your course activities. Yet, students have other

options, as indicated by the double-headed vertical arrow above the rectangle labeled “Students’ motivation in a course.” Even if they are motivated to engage in your course, there may be fewer costs and/or more benefits to engaging in the other activities represented at the top of Figure 2.2; and thus, they may not engage in your course at that time because they decide to engage in other activities. The dotted rectangle labeled “cost/benefit decisions” between these different motivations represents the idea that students must decide which motivations are least costly and/or most beneficial. Based on their cost/benefit analysis (e.g., considering the time, effort, and emotional costs involved), students decide whether they’re more motivated to engage in your course or in other activities at that time.

What students choose to engage in at any particular time of day is based on many variables, and may be affected by both conscious and unconscious factors. My research suggests that *time* is one of these variables: students will compare the amount of time they have available with the amount of time it takes to complete the activities, and then, choose activities in an order that allows them to most effectively reach their goals (at least that’s the intent, surely it doesn’t always work out that way!). When students decide to participate in many activities, the amount of time and effort they can devote to any one particular course is limited, as is evident in the undergraduate student’s comment that follows.

*“I put forth the minimal amount of effort in order to get an A because I am taking 18 credits, working 10 hours a week, I have an internship 9 hours a week, two clubs I’m an officer in, extracurriculars and I’m a transfer student trying to make friends.”*

Students will also consider the relative *importance* of completing various tasks towards their long-term goals (Osborne & Jones, 2011). For example, if they’re enrolled in two courses that require the same amount of time, but they don’t have time to engage fully in both, they’ll likely spend more time on the course they value more (e.g., the course is more relevant to their future career). This comment from an undergraduate student provides an example: “Of all my classes, I definitely do not put the most effort into this one. I am more focused on my in-major classes.”

Given this fairly complex model of students’ motivation, how can instructors use this information to design and implement instruction? I answer this question in the next section.

## What key motivation principles do you need to consider when designing and implementing instruction?

Students are motivated when their learning environment is *designed* to engage them. How? I examined decades of motivation research and theories and identified five groups of teaching strategies that can effectively motivate students to engage in learning: empowerment, usefulness, success, interest, and caring. I call these five groups of strategies the “components” of a motivation model. A quick glance at Figure 2.3 reveals why I used MUSIC as an acronym to help instructors remember these components (hint: the initial sounds of each word forms the acronym MUSIC). Consequently, I titled this model the “MUSIC® Model of Motivation” (Jones, 2009).



**Figure 2.3.** *The components of the MUSIC® Model of Motivation*

The need for this type of integrated motivation model has been noted by experts in the field of motivation (Wentzel & Wigfield, 2009, p. 6). The MUSIC model is not based on gimmicks or my personal ideas; rather, I built the model on the work of researchers, primarily in the disciplines of psychology, education, and motivation science (see Chapter 9 for more explanation). I labeled the components with words that would convey to educators the essence of the strategies. For short, I refer to this model throughout the book as the “MUSIC model.” (Note that although MUSIC® is a trademark of Brett D. Jones, I do not include the trademark symbol throughout the remainder of the book.)

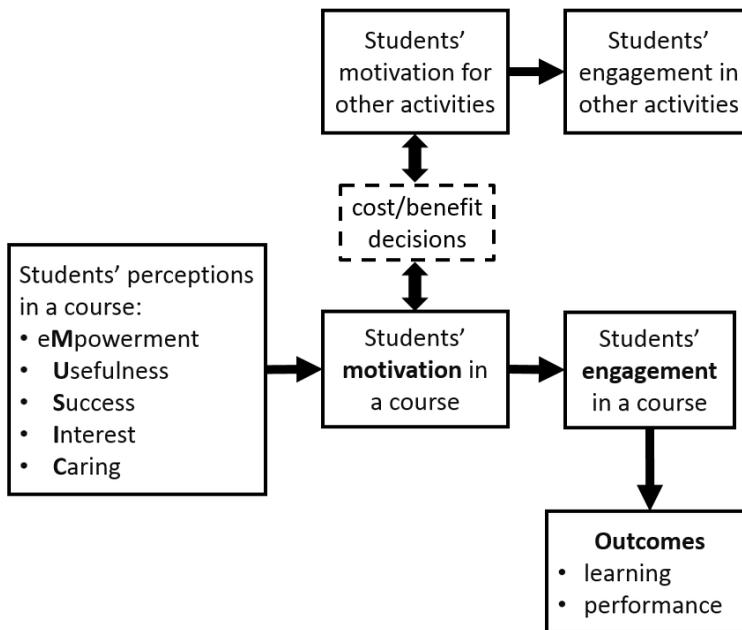
The MUSIC model is comprised of the five key principles listed here. The instructor needs to ensure that students:

1. feel empowered by having the ability to make decisions about some aspects of their learning,
2. understand why what they are learning is useful for their short- or long-term goals,
3. believe that they can succeed if they put forth the effort required,
4. are interested in the content and instructional activities, and
5. believe that others in the learning environment, such as the instructor and other students, care about their learning and about them as a person.

All five principles are focused on students’ *perceptions* of their learning environment. I refer to students’ “MUSIC perceptions” as the extent to which students perceive

that: they have control of their learning environment in the course (*empowerment*), the coursework is *useful* to their goals, they can *succeed* at the coursework, the instructional methods and coursework are *interesting*, and others in the course (such as the instructor and other students) *care* about whether they succeed in the coursework and care about their well-being. Students' MUSIC perceptions are subjective, internal representations of their experiences; and as a result, MUSIC perceptions can vary across classes and can vary between students in the same class. Thus, the MUSIC model is consistent with the situative perspective, which “interprets individuals' beliefs and behaviors as arising through participation in social, cultural, and historical contexts or systems” (Turner & Nolen, 2015, p. 168).

Students' MUSIC perceptions are important because researchers have documented that these perceptions are related to students' motivation, engagement, and subsequently, outcomes. Thus, in Figure 2.4, I've add MUSIC perceptions to the left side of Figure 2.2.



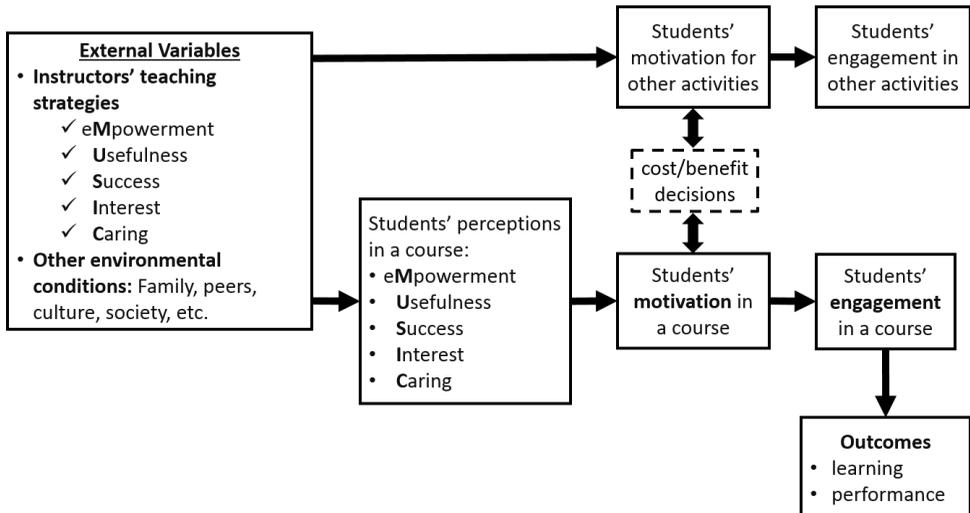
**Figure 2.4.** *The relationship between students' MUSIC perceptions and their motivation, engagement, and outcomes.*

Although I present the five MUSIC perceptions as distinct from one another, I acknowledge that these perceptions interact, likely in complex ways that are not completely understood by researchers. In fact, researchers have documented that these five MUSIC perceptions are correlated, but they've also conducted quantitative statistical analyses to demonstrate that they're distinct (Chittum & Jones, 2017; Jones,

Li, & Cruz, 2017; Jones, Sahbaz, Schram, & Chittum, 2017; Jones & Sigmon, 2016; Jones & Skaggs, 2016; Jones, Tendhar, & Parette, 2016; Jones & Wilkins, 2013; Parkes, Jones, & Wilkins, 2015; Schram & Jones, 2016). That is, students can perceive empowerment, usefulness, success, interest, and caring differently within a course. From a practical standpoint (until researchers can figure out how these complex interactions work), I contend that it's useful for instructors to consider students' MUSIC perceptions separately because it's possible to assess each perception and select teaching strategies that influence each.

## How does the MUSIC model work?

To examine how the MUSIC model works, let's continue to "back-up" in the figures that I've presented so far. Figure 2.5 adds an "External Variables" rectangle to the left side of Figure 2.4 to indicate that students' MUSIC perceptions are affected by (a) instructors' teaching strategies and (b) other environmental conditions. Here you can see the power of the MUSIC model because instructors can intentionally motivate students by design through implementing teaching strategies intended to directly affect the students' MUSIC perceptions. For example, teaching students effective learning strategies can increase their perceptions that they can *succeed* in the course.



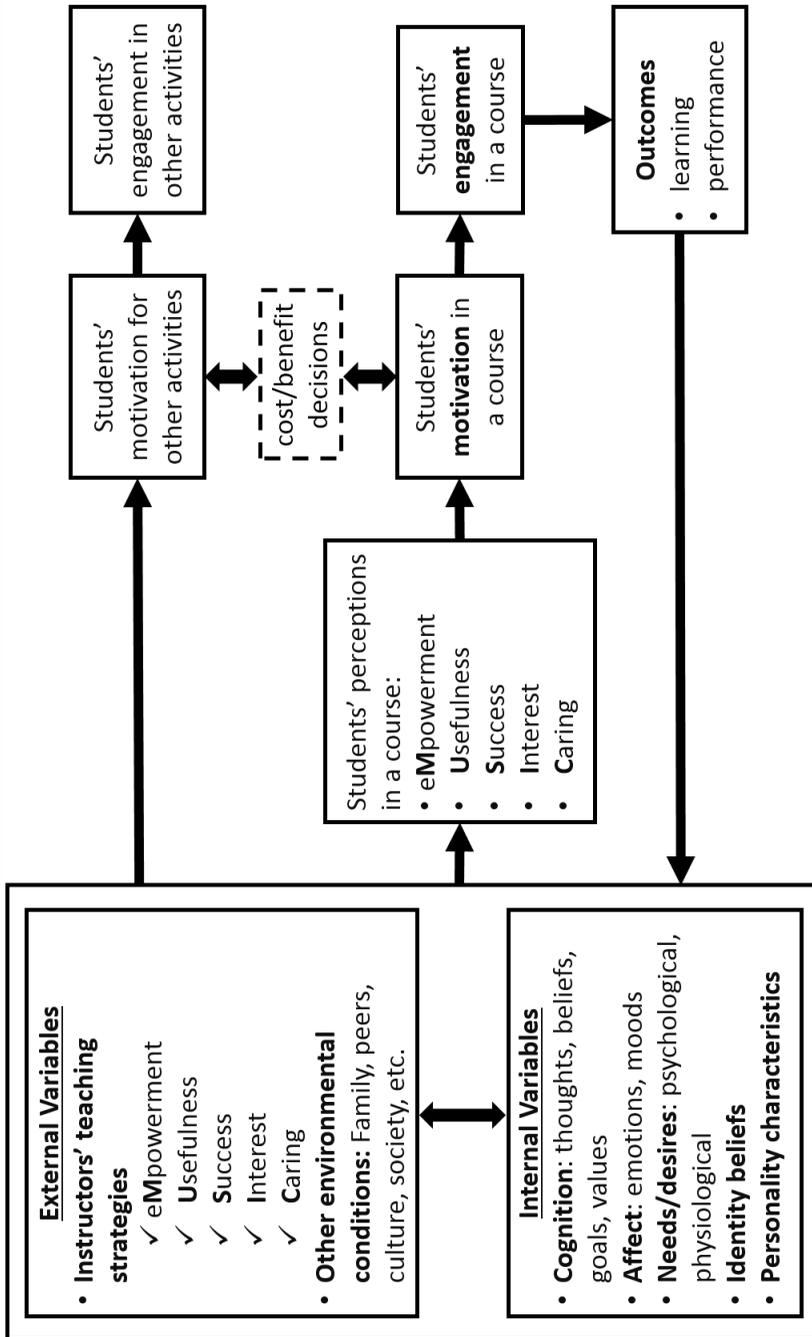
**Figure 2.5.** The process through which external variables, such as instructors' teaching strategies, can affect students' MUSIC perceptions, motivation, engagement, and outcomes.

To summarize, when instructors design and implement a course consistent with MUSIC model strategies, students' increased MUSIC perceptions can lead to increases in students' motivation and engagement, which then leads to positive outcomes, such as increased learning and improved performance. The aim of this book is to provide you with many teaching strategies that can help you to teach in ways consistent with the MUSIC model.

Also shown in Figure 2.5 is that “other environmental conditions,” such as students' family and peers, and the culture and society in which they learn and live, also affect students' MUSIC perceptions (Bernard, 2012; Kovas, Malykh, & Petrill, 2014). Generally, instructors have little to no control over these conditions that exist outside of the immediate course environment; and therefore, these environmental conditions not a central focus of this book. Although I completely acknowledge that these other environmental conditions can be as important or even more important to students' motivation in a course, my intent in this book is to provide strategies over which you have the most control. For this reason, this book is focused on the MUSIC model strategies.

I want to describe another critical piece of motivating students: considering psychological variables. Psychologists have identified many variables that affect students' motivations. The left side of Figure 2.6 lists some of these “internal psychological variables,” including *cognition* (such as their thoughts, beliefs, goals, and values), *affect* (such as their emotions, moods, and feelings), needs and desires (including psychological and physiological needs, for example, the need for nourishment), identity beliefs (beliefs about who one is), and personality characteristics (such as openness, conscientiousness, extroversion, agreeableness, and neuroticism). The interaction among cognition, affect, needs/desires, identity beliefs, and personality characteristics is complex, and certainly beyond the scope of this book, but psychologists use these internal variables to explain human motivation, behavior, and performance (for more information, see Cerasoli, Nicklin, & Nassreelgawi, 2016; Ryan, 2012; Shah & Gardner, 2008; Wentzel & Wigfield, 2009).

To complete my explanation of Figure 2.6, I need to explain the meaning of the arrows in the figure. The double-headed arrow between “External Variables” and “Internal Variables” indicates that while the external variables influence the internal variables, the internal variables also affect the external variables. For example, the culture in which one lives (an external variable) can affect students' values (an internal variable). For this reason, a student living in the culture of rural Virginia may have different values than a student living in an urban area of California. Conversely, students' internal variables can affect the external variables. For example, knowing the goals and values of their students (internal variables), instructors teaching at a college serving many students from urban areas of California should



**Figure 2.6.** *The MUSIC® Model of Motivation as it relates to students in a course<sup>1</sup>*

<sup>1</sup> From *Motivating Students by Design: Practical Strategies for Professors* by Brett D. Jones, available at [www.theMUSICmodel.com](http://www.theMUSICmodel.com). Copyright © 2018 by Brett D. Jones. Photocopying allowed for personal use.

consider MUSIC model strategies (external variables) that are most appropriate for these students (of course, many instructors have students with a wide variety of internal variables). In sum, the external and internal variables shown in Figure 2.6 are constantly interacting in complex ways.

The two arrows in Figure 2.6 leading from the rectangle around the external and internal variables (pointing to the right) indicate that the complex interactions between students' external and internal variables affect their MUSIC perceptions in a course, as well as their motivation for other activities. This is a vitally important part of the MUSIC model because instructors are only able to influence students' motivation to the extent that they select strategies that affect students' MUSIC perceptions. Therefore, instructors must be cognizant as to how other environmental conditions and internal variables interact with their strategies to affect students' MUSIC perceptions. Although this may sound complicated, the strategies in this book can help you to navigate this process.

*"I never teach my pupils. I only attempt to provide the conditions in which they can learn."* – Albert Einstein (cited in iz Quotes, 2015a)

The final arrow I want to explain is the one pointing left from "Outcomes" to the external and internal variables rectangle. This arrow indicates that the process of the MUSIC® Model of Motivation is cyclical. When students achieve an outcome, it affects the external and internal variables. Let me give you a few examples. Lucy receives a C grade on her biology course assignment (this is an "Outcome" of her level of engagement in the course). This outcome affects several of her "internal variables," including her beliefs about her ability in biology. Before this assignment, she believed that she was good at biology, but her C grade has lowered her ability belief. If other students in the class also received low grades on this assignment, it could affect the instructor's teaching strategies (an external variable). For instance, the instructor might change some strategies to try to help students or s/he might decrease the difficulty level of the next assignment. These changes to the teaching strategies could then affect Lucy's MUSIC perceptions, motivation, and engagement in ways that would affect her grade (the outcome) on the next assignment. As you can see, this cycle can continue throughout a course or learning experience (Dietrich, Viljaranta, Moeller, & Kracke, 2017). In fact, the cycle occurs constantly throughout individuals' lives as they engage in different activities (related and unrelated to courses), receive different outcomes, and changes occur in the external and internal variables. The goal of the MUSIC model is for the instructor to make changes to teaching strategies that will create a positive cycle in which students become more motivated, engaged, and achieve more desirable outcomes.

An important take away message from the MUSIC model is that motivating strategies are within your control, at least to some extent. Although instructors don't have complete control over students' motivations because of students' internal variables and other external variables, research indicates that instructors can have a significant impact on students' motivation in a course (Christenson et al., 2012; Wentzel & Wigfield, 2009). Another important message from the MUSIC model is that you need to be cognizant of these internal and other external variables when designing your course; otherwise, they may undermine your motivational strategies.

Finally, Figure 2.6 is not intended to illustrate *all* of the variables and interconnections that affect students' motivations. However, it includes many of the key variables that have been identified by researchers, and I find that it's a very practical and useful way for instructors to conceptualize the factors that affect students' motivation, engagement, and learning.

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## Why does the MUSIC model work?

The MUSIC model is a multidimensional approach to motivation that is effective because students' motivations in a course can vary and students can have very different perceptions of instruction (as any professors who have read their end-of-course evaluations will attest). Using the multidimensional MUSIC model gives you a good chance of motivating more of your students more of the time because it's not limited to any one theory or research agenda. It's likely that there are multiple pathways to motivating students and the MUSIC model provides five different (but often related) pathways to motivating students (i.e., through perceptions of empowerment, usefulness, success, interest, and caring). For example, some students may be motivated primarily by their success perceptions in a course, whereas other students may be more motivated by the usefulness of the content. And sometimes the MUSIC model components are interrelated in complex ways. For instance, one study found that telling students about the usefulness of a task increased their interest and performance in the task, but only when they had higher perceptions of success related to the task (Durik, Shechter, Noh, Rozek, & Harackiewicz, 2015). I may mention some of these types of complex relationships in this book, but until I believe there is enough research evidence to make broader claims, I won't highlight them in this book.

Given these sometimes complex interactions among MUSIC model components, it may be helpful for you to think of the model as a system comprised of several parts, including the students, the instructor, the instructional materials, and the learning environment. All of these parts must interact effectively to produce the desired

outcome, which is usually students' learning. Changes to one part of the system can have a range of effects on the other parts of the system.

The MUSIC model is a balanced approach that doesn't favor any motivation theories over others. Instead, the approach is designed to engage students as they oscillate between periods of high and low motivation and engagement. Because the MUSIC model is a conceptual model, it can be applied to any type of teaching approach. And because it was developed based on research from a variety of disciplines with students of all ages, there's no reason to believe that it doesn't apply to all types of learning environments (see Chapter 9 for more information about the development of the MUSIC model). Certainly, however, some aspects of the MUSIC model will be more salient in some courses than others.

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## Developing the MUSIC model mindset

You can implement a few strategies from this book in one of your courses and see some improvement in students' motivation and engagement. But the real aim of this book is to encourage you to develop a MUSIC mindset, because it can have a more enduring and profound effect on your teaching. What is a MUSIC mindset? Well, instructors who have a MUSIC mindset:

- believe that they can affect students' motivation to some extent,
- understand the five MUSIC model principles,
- understand how to design instruction using the MUSIC model,
- assess students' MUSIC perceptions,
- and use data to intentionally select and implement strategies consistent with the MUSIC model.

Instructors who have the MUSIC mindset think of motivating students not as an add-on or afterthought, but as something that permeates their instructional design. I provide practical strategies for using the MUSIC model to design instruction in the next chapter.

**Chapters 3, 4, 5, 6, 7, and 8 are not available in this PDF, but Chapter 9 is provided in the following pages. Please go to [www.amazon.com](http://www.amazon.com) to purchase the entire book.**



# The MUSIC® Model of Motivation Theory and Research

The purpose of this chapter is to provide a brief explanation about the development of the MUSIC model and research studies directly involving the MUSIC model. This chapter is not needed to help you understand how to effectively *implement* the MUSIC model; therefore, you can skip this chapter if your primary interest is in *using* the MUSIC model.

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## Why is the MUSIC model needed?

The impetus for developing the MUSIC model arose from my inability to effectively teach university students how to motivate their future or current students (most of my students planned to become teachers or professors and some of them were already teachers who were obtaining a graduate degree in education). In my courses, I thought I'd taught my students all of the relevant motivation theories; but by the end of a course, many of them couldn't readily identify and select appropriate motivation strategies for their instructional design. Instead, they were overwhelmed with the variety of theories, jargon, and overlap among similar motivational concepts.

I also found that effective teachers and professors often learned how to motivate students by trial-and-error, relying on strategies that they experienced as students or that they had used successfully in the past. And who could blame them? What else could they do? An integrated motivation model that incorporated current perspectives of motivation theory simply did not exist (Wentzel & Wigfield, 2009, p. 6). These problems motivated me to find a way to help students and practicing instructors more easily comprehend and implement motivational teaching strategies. The MUSIC model appears to have been successful in achieving my goals, as

evidenced by the feedback I've received, including comments such as this statement from a book commissioned by the American Association of State Colleges and Universities:

*“While academic motivation theories and practices abound, we believe the MUSIC model is especially useful...It is not only inclusive, evidence-based and research-validated, it is also versatile and applied—which makes it relatively straightforward, and therefore, easier to implement, either on campus or online.”*(Aldridge & Harvatt, 2014, p. 54)

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## How was the MUSIC model developed?

I developed the MUSIC model over the span of a decade using an inductive and iterative approach. I found that authors of motivation-related textbooks, handbooks, and journal articles provided implications for instructors based on particular motivation theories. I reviewed as many of these sources and other sources I could find, and I identified patterns in the teaching strategies provided in these sources. These patterns allowed me to group similar motivation strategies together, regardless of the theory from which they were derived. For example, the strategy, “provide students with choices” is one that can be attributed to self-determination theory, flow theory, interest theories, goal orientation theories, expectancy-value theory, and others (Schunk, Meece, & Pintrich, 2014). Although these theories are important, the practical implication for instructors is the same: instructors should provide students with choices to increase students' motivation.

After I developed some initial conceptual groups of motivation strategies, I tried them out in undergraduate and graduate courses at a variety of universities (e.g., Duke University, the University of South Florida St. Petersburg, and Virginia Tech). Over several years, I examined how the groups of strategies facilitated students' conceptual and practical understanding of the motivational strategies. I revised the strategy groups several times over 10 years until I found groups that (a) included the teaching implications of current motivation theories and (b) were easily understandable to students and teachers in ways that would help them design and implement instruction consistent with these theories.

As a result of this approach, I ended-up with five groups of strategies that I labeled using words that were understandable to students and teachers, and that best described the essence of the strategy group: empowerment, usefulness, success, interest, and caring. I presented the MUSIC model formally in an academic journal article in 2009 (Jones, 2009). Since then, I've worked with colleagues and students to use quantitative methods to provide further validity evidence for the five components of the MUSIC model (Jones, Li, & Cruz, 2017; Jones & Skaggs, 2016;

Jones & Sigmon, 2016; Jones & Wilkins, 2013; Parkes, Jones, & Wilkins, 2015; Schram & Jones, 2016). I've also developed the MUSIC Model of Academic Motivation Inventory (Jones, 2017; available at [www.theMUSICmodel.com](http://www.theMUSICmodel.com)) to assess students' perceptions of the five MUSIC model components.

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## What theories and research were used to identify the principles of the MUSIC model?

Sometimes people tell me that the MUSIC model is only a combination of this theory and that theory, or three particular theories. That is simply not true. While it may be true that you can identify many MUSIC model strategies by combining only a few theories, that's not the way that I developed the MUSIC model. I developed the model by examining many theories, some of which I list in this section. My intent in creating the model was to be inclusive of as many theories as possible.

Near the beginning of Chapters 4, 5, 6, 7, and 8, I provided a very brief explanation of the primary theories that are most directly relevant to the strategies in the MUSIC model. In this section I list those theories and a few others. This alphabetical list represents *some* of the primary references to *some* of the main theories and research studies that I used to create the MUSIC model; it is not intended to be a comprehensive list:

- arousal theories (Berlyne, 1960; Duffy, 1957),
- attachment theory (Ainsworth, 1979; Bowlby, 1969),
- attribution theory (Weiner, 1986; 2000),
- behaviorist theories (Skinner, 1953; Skinner & Epstein, 1982),
- belonging theories (Baumeister & Leary, 1995; Goodenow, 1993),
- caring theories (Johnson, Johnson, & Anderson, 1983; Noddings, 1984, 1992; Wentzel, 1999),
- competence theories (Elliot & Dweck, 2005; Harter, 1978; White, 1959),
- domain identification theory (Osborne & Jones, 2011)
- emotion theories (Pekrun, 2009),
- expectancy-value theory (Eccles et al., 1983; Wigfield & Eccles, 2000);
- flow theory (Csikszentmihalyi, 1990),
- future time perspective theory (Lens, 1988; Lewin, 1942; Nuttin & Lens, 1985)
- goal orientation theories (Ames, 1992; Elliot, 1999; Maehr & Midgley, 1991; Nicholls, 1984),
- goal setting theories (Locke & Latham, 2002)
- goal theories (Ford, 1992; Locke & Latham, 2002),

- identity and identification theories (Finn, 1989; James, 1890/1981; Voelkl, 1997),
- interest theories (Hidi & Renninger, 2006; Krapp, 2005; Schraw & Lehman, 2001),
- locus of control (deCharms, 1968, 1976)
- rewards and intrinsic/extrinsic motivation theories (Cameron & Pierce, 1994; Deci, 1975; Deci, Koestner, & Ryan, 1999; Deci & Ryan, 1985),
- self-concept theories (Marsh, 1990; Shavelson & Bolus, 1982),
- self-determination theory (Deci & Ryan, 1985, 2000),
- self-efficacy theory (Bandura, 1977, 1986, 1997; Pajares, 1996),
- self-esteem theories (Rosenberg, 1979),
- self-regulation theories (Bandura, 1986; Pintrich & de Groot, 1990; Zimmerman, 2000),
- self-theories of intelligence (Dweck, 1999, 2006; Mueller & Dweck, 1998);
- self-worth theories (Covington, 1992),
- social cognitive theory (Bandura, 1986, 1997), and
- stereotype theories (Aronson & Steele, 2005).

As you can see from this long list of theories, I used motivation strategies that were derived from many different theoretical perspectives when I created the MUSIC model. It's beyond the scope of this book to explain how each of these theories contributed to the model development; however, I have provided some explanations about these relationships in Jones (2016) and in my videos available on my YouTube channel ([www.youtube.com/c/brettdjones](http://www.youtube.com/c/brettdjones)).

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## What is the MUSIC Model of Motivation Theory?

The MUSIC® Model of Motivation Theory is explained in Chapter 2. The theory is comprised of a combination of concepts and principles discovered by many researchers over many years. It can be represented graphically as the cycle shown Chapter 2 (please see Chapter 2 for further explanation). A distinguishing feature of the MUSIC model theory is that it specifies five categories of teaching strategies (empowerment, usefulness, success, interest, and caring) as the means through which instructors can most directly affect students' motivation, engagement, and learning. Other researchers have noted the importance of one or more of these categories, but I haven't found another theory that specifies these components as the five distinct categories to consider when designing instruction to motivate students. Theories that do include all five of these components may combine one or more MUSIC constructs or further divide the components into more groups of strategies. In

creating the MUSIC model, I wanted to adhere to Occam's razor (the law of parsimony) in order to select the simplest solution that provided a fairly comprehensive explanation. It may be possible to subdivide some of the MUSIC components into further subcategories (Jones & Wilkins, 2013); but doing so unnecessarily complicates the model and, to date, I have not found that subdividing the MUSIC categories provides any significant *practical benefit* to the instructor or students.

Although researchers have provided evidence for many pieces of the model, only since the introduction of the MUSIC model (Jones, 2009) has research begun more earnestly on examining the model with all five MUSIC components included. I encourage researchers studying motivation to not only consider some of the MUSIC model components (e.g., students' perceptions of empowerment/autonomy, usefulness/value, interest), but to include all five MUSIC model components because it is not yet understood how the five MUSIC model components affect each other in different contexts. For example, research by Hulleman and Harackiewicz (2009) documented that a strategy focused on the *usefulness* of science content increased ninth-grade students' *interest* and achievement, but only for students who initially had low *expectations for success*. This study provides vital information about the relationships that can exist between three of the MUSIC model components (i.e., usefulness, interest, success) that would not have been possible if the researchers hadn't included all of these components in their study. Further research is needed to examine whether or not the other two MUSIC model components (empowerment and caring) affect or are affected by changes in usefulness, interest, and success perceptions.

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## What research has been conducted using the MUSIC model?

The purpose of this section is to summarize some of the research that has been conducted using the MUSIC model. For the most comprehensive and recent information, please visit the "Research" section of my website ([www.theMUSICmodel.com](http://www.theMUSICmodel.com)).

Since my first explanation of the MUSIC model in a journal article (Jones, 2009), several presentations and articles have been produced to explain the various ways that the MUSIC model can be *used in instruction*, including: in online courses for college students (Jones, 2012b), in "flipping" the classroom for college students (Jones, 2015a), in mental health clinics (Jones, 2015b), in reading instruction with elementary school students (Chittum & Jones, 2015), in educational psychology and

motivation courses for college students (Jones, 2016), and in the Reggio Emilia approach to preschool education (Gardner & Jones, 2016).

Empirical research using the MUSIC model can be roughly divided into the three major categories described here and in the following three sub-sections.

1. Examining Students' Motivation
  - These studies use the MUSIC model as a framework to examine students' motivation. Teaching implications often result from these examinations and are often discussed in these studies.
2. Fostering Domain Identification
  - These studies investigate relationships among students' perceptions of the MUSIC model in a course and their identification with (i.e., how much they value) the subject area in the course.
3. Measuring MUSIC Components
  - These studies examine the development and use of different measures (e.g., surveys, interview questions, observation forms) to assess students' MUSIC perceptions.

### **MUSIC Model Research Related to Examining Students' Motivation**

Studies that use the MUSIC model to examine students' motivation vary widely with respect to the school level and subject areas investigated. Table 9.1 includes some examples of the types of studies that have been conducted in higher education settings (the studies are arranged in order from medical school to undergraduate education in alphabetical order by courses/subject areas).

**Table 9.1.** *Studies in Higher Education That Use the MUSIC Model*

<b>Study Authors and Date</b>	<b>School Level</b>	<b>Courses/Subject Areas</b>
Le, Le, & Pham, 2014	medical school	medical school course
Hall, Jones, Amelink, & Hu, 2013	graduate	nuclear engineering
Martin & Morris, 2017	graduate	teaching composition
Scala, Tomasi, Goncher, & Bursic, 2017	undergraduate	analytics
Kavousi & Miller, 2014a	undergraduate	architecture design studio
Kavousi & Miller, 2014b	undergraduate	architecture design studio

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Chittum, McConnell, & Sible 2017	undergraduate	cancer biology
Dockter, Uvarov, Guzman-Alvarez, & Molinaro, 2017	undergraduate	chemistry
Kafura, Bart, & Chowdhury, 2015	undergraduate	computational thinking
Bart, Whitcomb, Kafura, Shaffer, & Tilevich, 2017	undergraduate	computational thinking
Smith-Orr & Garnett, 2016	undergraduate	computer programming
Jones, Ruff, Snyder, Petrich, & Koonce, 2012	undergraduate	educational psychology
Jones, Tendhar, & Parette, 2016	undergraduate	engineering
Lee, Brozina, Amelink, & Jones, 2017	undergraduate	engineering
Matusovich, Jones, Parette, Moore, & Hunter, 2011	undergraduate	engineering
Matusovich, Parette, Jones, & Brown, 2012	undergraduate	engineering
Mora, Anorbe-Diaz, Gonzalez-Marrero, Martin-Gutierrez, & Jones, 2017	undergraduate	engineering
Jones, Epler, Mokri, Bryant, & Parette, 2013	undergraduate	engineering capstone courses
Lee, Seimetz, & Amelink, 2014	undergraduate	engineering summer program
Lee, Kajfez, & Matusovich, 2013	undergraduate	engineering support center
Jones, Li, & Lu, 2015	undergraduate	English
Tu & Jones, 2017	undergraduate	neuroscience
Jones, 2010	undergraduate	personal health
Cretu, 2014	undergraduate	pedagogy
Jones, 2012a	undergraduate	personal health
Jones, Watson, Rakes, & Akalin, 2013	undergraduate	personal health
McGinley & Jones, 2014	undergraduate	psychology

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Researchers have also used the MUSIC model in preK-12 settings as is evidenced by the studies presented in Table 9.2 (the studies are arranged in order from high school to preschool in alphabetical order by courses/subject areas).

**Table 9.2.** *Studies in Pre-K to 12 Schools That Use the MUSIC Model*

<b>Study Authors and Date</b>	<b>School Level</b>	<b>Courses/Subject Areas</b>
Evans, Jones, & Akalin, in press	high school	biology
Evans, Jones, & Biedler, 2014	high school	biology
Martin, 2014	high school	English
Remijan, 2017	high school	mathematics
Chittum & Jones, 2017	middle school	science
Chittum, Jones, Akalin, & Schram, 2017	middle school	science/engineering
Schnittka, Brandt, Jones, & Evans, 2012	middle school	science/engineering
Jones, Sahbaz, Schram, & Chittum, 2017	middle school	science/engineering
Jones, Chittum, et al., 2015	middle school	science/engineering
Williams, 2013	elementary	literacy
Chu Yew Yee, 2015	elementary	all
Chittum & Jones, 2015	elementary	reading
Gardner & Jones, 2016	preschool	all

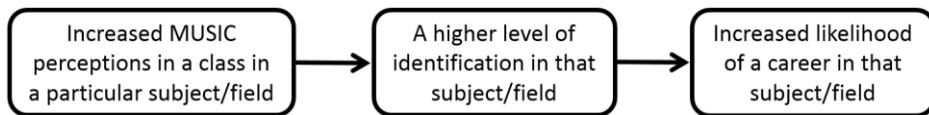
### **MUSIC Model Research Related to Fostering Domain Identification**

Evidence from several studies suggests a positive relationship between students' perceptions of the MUSIC model components in a course and their identification with the subject/field of the course (see Table 9.3). For example, students in a first-year undergraduate engineering course who rated the course higher on the MUSIC components were more likely to be more highly identified with engineering and to plan to pursue engineering as a career (Jones et al., 2014).

**Table 9.3.** *Studies Examining Relationships Between the MUSIC Variables and Domain identification*

<b>Study Authors and Date</b>	<b>School Level</b>	<b>Courses/Subject Areas</b>
Smith-Orr & Garnett, 2016	undergraduate	computer programming
Jones, Osborne, Paretti, & Matusovich, 2014	undergraduate	engineering
Jones, Tendhar, & Paretti, 2016	undergraduate	engineering
Ruff & Jones, 2016	undergraduate	engineering
Tendhar, Singh, & Jones, 2017	undergraduate	engineering
Jones, Sahbaz, Schram, & Chittum, 2017	middle school	science

When students are more highly identified with a subject or field, that means that they value the subject/field as part of their identity (i.e., as part of their Self), which then, makes them more likely to consider that subject/field as a career (see Figure 9.1).

**Figure 9.1.** *Students' course perceptions can affect the likelihood they choose a career in that discipline.*

The implications of this research are very important because it presents a means through which *teachers* can influence students' beliefs about their careers (of course, other external factors also play an important role, such as parents, peers, and the culture in which students live). It makes sense that students who are motivated and engaged in their courses would consider those course subject/field areas for careers.

### **Research Related to Measuring MUSIC Components**

To assess students' perceptions of the five MUSIC model components, it's useful to have a valid quantitative measure, such as a questionnaire, that can be administered to students quickly and easily. Researchers have been measuring students' perceptions of constructs related to the MUSIC model components for decades;

however, they haven't been measuring all five perceptions in the same study. Rather, they measured only the MUSIC-related constructs that were directly related to the motivation theory they were studying. This approach is appropriate for that purpose. However, to measure students' perceptions of all five of the MUSIC components with items formatted similarly and rated on the same scale, it became necessary to develop a new measure. Therefore, I developed the MUSIC<sup>®</sup> Model of Academic Motivation Inventory (shortened to the *MUSIC Inventory*; Jones, 2017) to provide the means to measure students' perceptions of all five MUSIC model components with one inventory on the same scale.

The MUSIC Inventory has been validated for use with students of various ages and in different cultural settings, as is evidenced by the list of published peer-reviewed journal articles provided in Table 9.4 (the studies are arranged in order from college to elementary school in alphabetical order by language). The MUSIC inventory has also been translated to other languages and the research is ongoing on five continents (we haven't used it in Australia or Antarctica yet). All of the different versions of the MUSIC Inventory are available in the *User Guide* at [www.theMUSICmodel.com](http://www.theMUSICmodel.com).

**Table 9.4.** *Studies Providing Validity Evidence for the MUSIC Inventory*

<b>Study Authors and Date</b>	<b>MUSIC Inventory Version</b>	<b>Language</b>	<b>Country of Participants</b>
Mohamed, Soliman, & Jones, 2013	college	Arabic	Egypt
Jones, Li, & Cruz, 2017	college	Chinese & Spanish	China & Columbia
Jones & Skaggs, 2016	college	English	U.S.
Pace, Ham, Poole, & Wahaib, 2016	college	English	U.S.
Tendhar, Singh, & Jones, 2017	college	English	U.S.
Chittum & Jones, 2017	middle/high school	English	U.S.
Jones, Sahbaz, Schram, & Chittum, 2017	middle/high school	English	U.S.
Parkes, Jones, & Wilkins, 2015	middle/high school	English	U.S.
Schram & Jones, 2016	middle/high school	Icelandic	Iceland
Jones & Sigmon, 2016	elementary school	English	U.S.

*Note:* Some of these studies examined the factor structure of the MUSIC Inventory scales (e.g., through confirmatory factor analysis) as part of a study in which validation of the MUSIC Inventory scores wasn't the primary aim.

The fact that the inventory produces valid scores in different cultures provides further evidence of the validity of the five-component MUSIC model. That is, similar to U.S. students, students in other cultures also perceive empowerment, usefulness, success, interest, and caring as separate components in their learning environments.

Several studies have also used qualitative approaches to assess students' MUSIC perceptions. For example, some researchers have interviewed students about their MUSIC perceptions (e.g., Evans et al., 2012; Jones, Epler, et al., 2013) and other researchers have asked open-ended items on questionnaires, typically along with the MUSIC Inventory items (e.g., Jones, Watson, et al., 2012). Examples of interview and open-ended items are provided in the *User Guide* at [www.theMUSICmodel.com](http://www.theMUSICmodel.com).



## Afterword

As I look back at the strategies and examples in this book, I don't see anything magical or any silver bullets that can be used to solve all student motivation problems. Instead, I see a variety of strategies and examples based on well-grounded research and theories. My final few suggestions for you are provided here.

1. Pay attention to details. Some of these ideas may seem trivial and unimportant, but they may have large effects on students' MUSIC perceptions.
2. Plan, plan some more, and then make sure your plan is ready to implement. I encourage you to try new ideas and make last-minute changes as needed, but effective teaching requires you to think through all aspects of the course design ahead of time.
3. Reflect on your teaching. Use your own observations, feedback from students, and other sources of data to learn about your teaching. The only way to improve is to know what you did well and not so well, and then make changes to address the things that didn't work so well.

Good luck and contact me if you find something that worked great (or not so great) or have any questions. I continue to learn from individuals like you, so I enjoy the feedback I receive and I will try to use it to improve the next edition of this book.



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## **APPENDICES**

## APPENDIX A

### Tips for Succeeding (see Example S.2.2)

*This is an example of a “Tips for Succeeding” document. This isn’t a complete document, but it’s intended to give you some ideas for what you can include.*

#### **Learning and Studying from the Course Readings**

Students often say: “I read the assigned readings and I didn’t get an A, it must be a bad test.” Certainly, it could be that the test is bad, but more often, when I probe into students’ true understanding I find that they don’t really understand the concepts. Reading an educational psychology textbook is not like reading a novel. You must pause, think about what you are learning, and take steps to learn the information. What steps can you take? Please read on to find out...

An excellent strategy that can help you to understand and remember what you read is the PQ4R strategy (Thomas & Robinson, 1972). PQ4R is an acronym for Preview, Question, Read, Reflect, Recite, and Review.

Preview: Skim through the reading and pay attention to the general topics and the structure of the chapter by reading the various headers and titles. The purpose of previewing is to identify the main topics of the reading and to “activate” any prior knowledge you might have regarding these topics.

Question: Think of questions related to the major sections of the reading. It’s possible to turn the major section headers into questions.

Read: After previewing and questioning, it’s time to read. Try to answer your questions while reading. Note main ideas, terminology, concepts, evidence, and applications of main ideas.

Reflect: While reading, it is important to take the time to think about what you’re reading. Stop occasionally and determine whether or not you understand what you’re reading. Connect the reading to your own experiences. Reflect to connect! You can also take notes, underline, write outlines, create concept maps, and do anything that helps you to actively process the information. Simply underlining or highlighting the text without actively processing the concepts is an ineffective way to learn.

Recite: After reading a topic or section, stop and try to answer your questions aloud. Try to recall what you read and summarize it. If you are in a public space, such as a

coffee shop, do these things in your head. Reread any sections that you forgot or that are confusing.

Review: When you are all finished, try to recall the main points. For better recall and understanding, try to recall the main points again a couple days later or at the beginning of your next study session. Spending just a few minutes every few days trying to recall the main ideas can enhance your memory of the content significantly.

### **Tips for Taking Online Quizzes**

Students often benefit from thinking about strategies to use when taking online quizzes. The purpose of this section is to list a few tips that have worked for students in the past. Some of these may seem obvious, but at least some students in the past have not known these strategies and have found them helpful.

1. Read the textbook before you take the online quizzes. There is not enough time to look-up the answers and take the quizzes at the same time if you are not already familiar with the material in the chapter. There should be time, however, to look up a few specific things if you have already read over the material. The main reason students don't do well on the quizzes is because they don't understand the material well enough to apply it to the questions.
2. Read the questions carefully. Often when students tell me that the answer to a particular question is incorrect, they have misread the question and actually know the correct answer if they had simply read the question correctly. Take the time to read the questions carefully.
3. Read all of the answer choices before selecting an answer. There may be an answer that is partially correct, but another answer that is always correct; and thus, it's the best answer. Think about whether your answer is always true or if there are cases where this answer is not always true and there may be a better answer.
4. If you don't know the answer to a question, move on to the next question. Don't spend too much time on one question. Write down the number of every skipped question so that you can go back to it when you have answered all of the questions that you know. In your first pass through the quiz, you should spend no more than 45 to 60 seconds on each question.
5. Once you've read every question and responded to the ones that you are sure of, look at your time and figure out how much time you can now devote to the remaining questions you have to answer.
6. If you cannot figure out the best answer, start by excluding the answers that you know to be incorrect. Then narrow down your selections and choose the best answer.

7. The questions require you to understand the concepts in the textbook, so focus on the concepts as you study and answer the questions. If you understand the concept behind the question, it is generally easy to narrow the choices and select the correct answer. Some questions may seem tricky, but if you understand the concepts, they're fairly straightforward.
8. Don't go beyond the information in the question. Read the question as if you were a judge and you had to make a decision based on the facts. Students often read something into the question that is not there. For instance, one answer says that "Roy works hard to keep his grades up so he can get into a good college and make his parents proud." A student interpreted this to mean that "he must have observed his parents successes in going to college and used their input on the importance of getting into a good college." Yet, the answer says nothing about his parents going college. Do not infer things that are not there. Simply read the questions and answers as they are.
9. The best test taking strategy is to study well and master the material. You will encounter some difficult ideas, theories, and concepts. Be sure you understand not only each idea but also how ideas relate to each other. Summarize sections of the text in your mind and on paper, organize your thoughts and understanding, elaborate on ideas, connect the ideas you study to your own experiences, test yourself frequently, try discussing ideas with others, reflect frequently on ideas and their meanings, review regularly, and monitor your understanding as you study.
10. If you do not understand, seek help. You can ask the instructor, ask fellow students, look for explanations in other books, search the Internet for explanations, or participate in a study group.

## APPENDIX B

### **My Study Strategies in This Course assignment** **(see Example S.2.9)**

*This is an example of an assignment that requires students to reflect on their study strategies and to consider other possible strategies they could use to be more effective learners.*

#### **Purpose**

The purpose of this assignment is for you to reflect on your study strategies in this course and to consider other possible strategies that you could use to improve the efficiency of your learning. Effective study strategies can help you learn the concepts better, make your study time more efficient, and help you to achieve a higher grade in this course.

#### **Instructions**

- Write a single-spaced paper that answers the following three questions:
  1. What was your process as you studied Chapters 1 and 2 (please complete this after you have finished the tests related to Chapters 1 and 2)?
  2. How effective was the process you described in #1 above?
  3. What could you do differently to study more effectively for the remainder of this course?
- For questions #1 and #2: Please be honest in your answers. You will not be graded lower if you didn't use effective study strategies. The goal is simply to be accurate in documenting your study processes. Your response should be between 150 and 750 words total for questions #1 and 2 combined. Write enough to explain what you did, but longer isn't necessarily better. Use bullet points if it's helpful.
- For question #3: As you prepare your answer for the third question, consider the ideas in the "Tips for Succeeding in EDEP 5154" document, but don't be limited by these strategies because there are many strategies that are not listed in that document. Whether or not you actually *use* the strategies is less important (although it would be great if you used effective strategies); rather, you need to understand how to use effective strategies if you want to do so. Your response should be between 400 and 800 words.

- Create three sections in your paper with three sections headers labeled: “Question 1,” “Question 2,” and “Question 3,” respectively. Answer the corresponding question in each section.
- How to submit it: Submit it as a Word document by uploading it to the Assignments section of the course website.

This assignment will be graded on the following criteria:

- The assignment is typed and single spaced.
- There are between 150 and 750 words for questions #1 and 2 combined. This will be checked using the word count feature in Word.
- There are between 400 and 800 words for question #3.
- The response for question #3 includes strategies that are consistent with the strategies in the “Tips for Succeeding in EDEP 5154” document or any other resources you used.
- There are 3 separate sections with appropriately labeled headers (i.e., Question 1, 2, and 3).
- Please include your last name as part (or all) of the title of the Word document that you submit.

## APPENDIX C

### **Retaking Tests (see Example S.2.12)**

*This is an example of an explanation as to why you're allowing students to retake tests.*

There are no extra-credit assignments in this course because I don't want you to learn extra things, I want you to learn the objectives in this course. However, I would like to offer you the following opportunity to improve your learning and grades.

I am most interested in you learning the concepts in this course. Therefore, I am going to allow you to retake up to three of the 14 chapter tests. I believe it is fair to allow you to go back and learn things that you didn't quite understand the first time and re-taking tests is one way to accomplish that. I also realize that some of you might have had a bad day or week and didn't score as well as you might have otherwise on the tests. If your grades have been good on the tests or if you are happy with your grades, you do not need to retake any tests. You don't have to retake three tests, you can retake only one or two tests, it's up to you.

After you retake a test, you don't get the higher of the two test grades; rather, you get the grade you earned on it the second time, whether it was higher or lower than the first time you took it because the computer will delete your first attempt after you start re-taking it. My experience is that most students do the same or better, but there is a chance that your grade will go down. Therefore, use this opportunity to retake your very worst tests.

The procedure for re-taking tests is to...

## APPENDIX D

### **Example Email to Students Doing Well (see Example S.2.15)**

*This is an example of an email that can be sent to students who are doing well in your course. This type of message can be sent to solicit their strategies, which can then be shared with the other students in the class.*

Hi,

I see that you are doing well in the course, keep up the good work! I was writing today because a few students are really struggling in the course and I've been giving them advice on how to improve their grades. I've found that it can also be helpful if other students give them advice.

Because you're doing so well in the course, I was wondering if you would be willing to take a few minutes to write-up a summary of what you do each week to prepare for the quizzes. Even the smallest things that you do can be included. I don't want you to feel obligated to do so. Whether you agree or not will not affect your grade in any way. But if you are willing, it might be helpful to some others to hear what you do. I'm sending this message to a few other students as well, so you won't be the only one submitting strategies.

I would like to send out your summary to the entire class because everyone can benefit from hearing the different types of strategies that others use in this course. I won't provide your name along with your summary (unless you specifically ask me to). I'm happy to have your name on it, but some students would rather not have the other students know who it is, it's up to you.

Let me know what you think – either way is fine. And again, it won't affect your grade in any way, but it might help others. And maybe you will see some strategies that others are using that could be useful to you.

Thanks!

## APPENDIX E

### Example Tables to Include in a Syllabus (see Example S.5.1)

*These two tables are examples of tables that can be included on your syllabus to help make course expectations explicit to students.*

<b>Graded Attendance, Assignments, and Exams</b>	<b>Point Value</b>	<b>% of Total Grade</b>
1. Attendance/Participation (15 @ 2 points each)	1. 30 points	23%
2. Assignment A (12 @ 2 points each)	2. 24 points	18%
3. Assignment B (2 @ 8 points each)	3. 16 points	12%
4. Assignment C (2 @ 8 points each)	4. 16 points	12%
5. Tests (3 @ 5 points each)	5. 15 points	11%
6. Final Exam	6. 30 points	23%
Total	131 points	100%

<b>Class Number, Date, and Topic</b>	<b>Attendance</b>	<b>Assign-ment A</b>	<b>Assign-ment B</b>	<b>Assign-ment C</b>	<b>Tests/ Final Exam</b>
1. 1/20 Topic 1	1				
2. 1/27 Topic 2	2				
3. 2/3 Topic 3	3	A 1			
4. 2/10 Topic 4	4	A 2	B 1		
5. 2/17 Topic 5	5	A 3		C 1	
6. 2/24 Topic 6	6	A 4			Test 1
7. 3/3 Topic 7	7	A 5			
3/10 Spring Break					
8. 3/17 Topic 8	8	A 6, A 7			Test 2
9. 3/24 Topic 9	9		B 2		
10. 3/31 Topic 10	10	A 8			
11. 4/7 Topic 11	11			C 2	
12. 4/14 Topic 12	12	A 9			
13. 4/21 Topic 13	13	A 10			Test 3
14. 4/28 Topic 14	14	A 11			
15. 5/5 Topic 15	15	A 12			
16. 5/12 Final					Final Exam
Total points = 131	30	24	16	16	45

**Note:** The letters A, B, and C are used to signify different types of assignments. For example, Assignment A might be a one-page paper due almost every week.

## APPENDIX F

### **Strategies to Learn Students' Names (see Example C.1.1)**

*This appendix includes strategies that you can use to more effectively learn students' names.*

It's possible to learn 20 to 30 students' names after the first or second class. But to do so, you need to use memory strategies intentionally and frequently. Here, I provide you with a few specific strategies for learning names.

First, review the list of names before your first class. My university provides me access to students' identification photos along with their names, which allows me to begin connecting names to faces prior to the first class. Use some type of visual image to connect their name to an image. You might picture:

- Diana Campbell sitting on top of a large can of Campbell's tomato soup,
- Amanda Black dressed entirely in black like a ninja (maybe even as a "man" to remember Amanda),
- Jose Ramirez ramming his head into a wall (using the first part of his last name "Ram"),
- Dong Nguyen or Edwin Smith at the finish line winning a 100-meter dash race (Nguyen is roughly pronounced "win" and Edwin contains the word "win").

You're more likely to remember unusual images. Create a specific image with as many details as possible and think about the image in your mind for several seconds. The more you practice this strategy the better you'll get at it. If you can't think of an image, try to connect the name to something else, perhaps to another person with the same first or last name, someone famous, or something you learned from a conversation with him or her. Use one of his physical or personality features if needed, such as tall Tim, short Shakira, or gabby Gabriella. If you're unable to do this prior to the first class, try to do it as students arrive to the first class or soon after the end of the first class.

During the first class, arrive early and walk around the class with the roster and ask students for their names. After they say their name, listen to it, and repeat it back to them, possibly several times if needed to get the pronunciation correct. Take a good look at them so that you know what they look like. Check them off your roster and try to form a visual image with their name. During the first class, have students fold piece of paper in

the shape of a basic tent with their name on it to display on their desk and ask them to bring this to class for at least one or two more classes. Use their name during class as much as possible. After the first class, look at every student's name and try to recall the image or create an image if you can picture the student. You might also attach information you learned about them from a short conversation with them. As students arrive for the second class, see if you can remember their names without asking them and check them off your roster if you remember them. For the students you don't remember, walk around the room and ask students to remind you of their names. Continue with this process until you have learned everyone's name. Taking attendance and trying to remember students' names at the beginning of every class is a very effective way to remember names, especially if you attach visual images to their names. You can also spend a few minutes to take attendance during some class activities if you're unable to complete your attendance check prior to class.

## About the Author

Brett D. Jones, Ph.D., is a Professor and the Educational Psychology program leader in the School of Education at Virginia Tech. He received his B.A.E. in Architectural Engineering from The Pennsylvania State University (1992) and his M.A. and Ph.D. in Educational Psychology from the University of North Carolina at Chapel Hill (1999). He has held faculty positions as an educational psychologist at Duke University, the University of South Florida St. Petersburg (USFSP), and Virginia Tech, and has taught courses as an adjunct professor at the University of the Virgin Islands and North Carolina Central University. He has taught 24 different types of courses related to motivation, cognition, and teaching strategies, and has conducted workshops and invited presentations at several universities. His teaching awards include the *Teaching Excellence Award* for the College of Education at USFSP (2003), the university-wide *Undergraduate Teaching Award* at USFSP (2003-2004), and the *Favorite Faculty* award (2007) and the *Teacher of the Week* award (2013) at Virginia Tech.

As an educational psychologist and motivation scientist, Dr. Jones' research includes investigating how students' beliefs impact their motivation and examining methods professors can use to design instructional environments that support students' motivation and learning. He has received more than \$2 million from the National Science Foundation (NSF) to conduct his research and has published more than 90 articles, books, and book chapters. He has also contributed to the discipline by conducting more than 130 presentations at regional, national, and international conferences. For his research, Dr. Jones received the North Carolina Association for Research in Education's *Distinguished Paper Award* (2000); the *Scholar of the Week* recognition at Virginia Tech (2009); the *Best Paper Award* from the American Society for Engineering Education, K-12 Engineering Division (2010); and the Virginia Tech College of Liberal Arts and Human Sciences *Excellence in Research and Creative Scholarship Award* (2010-2011). He was inducted into the East Stroudsburg Area School District *Meritorious Hall of Fame* in 2010.

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