

THE MUSIC MODEL OF ACADEMIC MOTIVATION IN ACTION: REVISING A PRINCIPLES OF MARKETING COURSE USING *MOTIVATING STUDENTS BY DESIGN*

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ABSTRACT

Purpose of the Study: *Improving student motivation is a central challenge for faculty in higher education. The MUSIC Model of Student Motivation provides a framework for addressing this challenge by emphasizing the crucial role that course design and implementation play in promoting student motivation.*

Method, Design, and Sample: *This article presents a case study of applying the MUSIC Model to a Principles of Marketing course. A survey was administered to students during the fall semester to assess their level of motivation, which was then used to inform modest adjustments to the course design for the spring semester.*

Results: *The results of this study demonstrate course modifications led to a significant improvement in four out of the five components of student motivation.*

Value to Marketing Educators: *The findings provide valuable insights for instructors seeking to positively impact student motivation in their courses and highlight the effectiveness of the MUSIC Model as a tool for enhancing student engagement and outcomes.*

Keywords: Marketing education, MUSIC model, motivation, engagement

INTRODUCTION

The purpose of this article is to share one instructor's experience with course revision using motivation as the primary objective. The ongoing decline in student motivation represents a critical challenge facing higher education. Even prior to the pandemic, lack of engagement and alienation were far too common among college students¹ but this was certainly exacerbated by COVID.²

As educators, we are constantly exploring new teaching strategies and approaches to promote a dynamic learning environment that maximizes student potential. While this often involves reading pedagogical literature and attending professional development opportunities, these efforts may not always be effective when approached in a speculative manner.

The MUSIC Model of Academic Motivation³ offers a systematic approach to course development and revision that is grounded in research and provides a framework for addressing the complex issue of student motivation. This case study demonstrates the effectiveness of the MUSIC Model in practice and provides useful guidance for faculty seeking to improve their courses in a structured and intentional manner.

This article presents an important contribution to the ongoing conversation about effective teaching practices in higher education, with a specific focus on enhancing student motivation, an issue that predates the COVID-19 pandemic. Given the ongoing declines in levels of motivation interventions like those described here are all the more critical.⁴ Through the use of a survey, the instructor was able to redesign

¹ For an examination of the recent historical context of student motivation, see Fischman and Gardner (2022), which discusses ongoing motivational issues leading up to and beyond the COVID-19 pandemic. Malesic (2022) provides insights into the atmosphere on college campuses since COVID, including the ongoing impact on student motivation, as well as suggestions for addressing these challenges moving forward.

² Corpus et al (2023) offers a nuanced analysis of effects of COVID on student motivation.

³ A user-friendly introduction to the model, as well several helpful resources and a free copy of the book, can be accessed at www.themusicmodel.com.

the course with the goal of improving student motivation and ultimately achieving better engagement and improved outcomes.

The innovation of this study lies in the systematic review of the instructor's current practices and the deliberate addition of elements that target specific motivational factors. While some of the interventions mentioned in this study may be familiar to readers, the article emphasizes the unique approach of organizing and implementing these interventions in a targeted manner that is comfortable and manageable for the instructor.

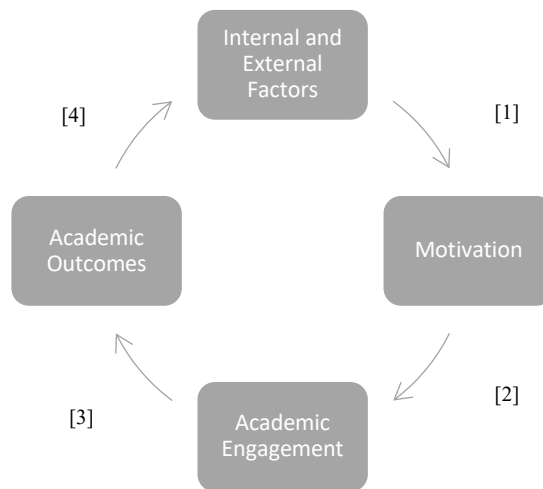
The insights presented here offer valuable guidance for educators seeking to enhance the quality of their teaching practices and create more effective learning experiences for their students. This study provides a valuable addition to research on motivation in higher education. In particular, the application of the MUSIC model to the field of marketing represents a novel contribution to the disciplines of business and social science, where this framework has not previously found application.

LITERATURE REVIEW

The MUSIC Model of Motivation

The MUSIC model, which was developed in 2009 by Brett Jones, Professor in the Educational Psychology Program in the School of Education at Virginia Tech, builds on the circular model of student motivation shown in Figure 1. The model posits that student motivation is influenced by both internal and external factors, such as needs, cognition, affect, learning environment, and community, which can lead to an intent to engage in a subject or task, or a desire to engage and persist in it. This, in turn, leads to active participation, or engagement, and associated outcomes. Completing the cycle, these outcomes can then

Figure 1: A Model of Student Motivation



Based on Ormrod (2012)

impact the internal factors, as successful students often internalize a mastery orientation, while those who struggle may develop learned helplessness.

In the MUSIC model, faculty efforts in instructional design enter as external factors. Therefore, incorporating innovative pedagogical approaches can significantly impact student motivation, leading to increased engagement and favorable academic outcomes. In addition, rather than viewing student motivation as a monolith, the MUSIC model deconstructs motivation into five components.

- **eMpowerment** – student perception of control over aspects of their learning;
- **Usefulness** – student perception that the course content has value either currently or in the future;

⁴ For an examination of the recent historical context of student motivation, see Fischman and Gardner (2022), which discusses ongoing motivational issues leading up to and beyond the COVID-19 pandemic. Malesic (2022) provides insights into the atmosphere on college campuses since COVID, including the ongoing impact on student motivation, as well as suggestions for addressing these challenges moving forward.

- **Success** – student perception that they can be successful in the course if they put in the effort;
- **Interest** – students find the course content and/or instructional activities engaging;
- **Caring** – students feel their well-being and academic success matters to others.

Student motivation can be influenced by these five components, which can operate in isolation or conjunction. By breaking down the broader issue of motivation into more specific components, instructors can better identify and target areas for modification, rather than attempting to address motivation as a whole.

This paper focuses on the first step in Figure 1, which emphasizes that “[t]eachers play a major role in motivating students by designing effective learning environments and supporting students’ motivation-related beliefs over time.”⁵ Rather than assuming students’ perception of the components of MUSIC model are fixed, we instrument on each of these elements individually to investigate if there can be real and significant changes in student perceptions about each component of the MUSIC model. Our study is not focused on testing the impact of MUSIC model perceptions on outcomes, [2] and [3] in Figure 1, as ample evidence of this already exists and will be discussed below. Instead, this study concentrates on simple interventions that alter MUSIC element perceptions – step [1]. Herein, we describe one instructor’s experience in applying the MUSIC model to an undergraduate marketing course at a small liberal arts college in the Mid-Atlantic region of the U.S.

Related Literature

There are three streams of related literature. The first will establish the connection between motivation (specifically the MUSIC model), engagement, and outcomes, while the second will review studies of motivation, more broadly defined, in marketing, and the third offers an evaluation of the applications of the MUSIC model in other disciplines.

Motivation, Engagement, and Outcomes

There have been numerous studies establishing the link between motivation, engagement, and outcomes – steps [2] and [3] in Figure 1. For instance, two studies focus on the connection between motivation and outcomes. In a study of 795 students across 43 math courses, Wilkins et al. (2021) find that all five components of MUSIC perception are positively and significantly related to both course and instructor ratings. Similarly, Jones, et al. (2022) studies 2,949 undergraduate students across 30 courses finding student evaluations of teaching positively correlated with MUSIC perceptions. Interestingly, this study also found that, accounting for other variables (MUSIC perceptions, class size, demographic), student evaluations are negatively related to ease of course.

Other studies look at the larger sequence – motivation to engagement to outcomes. In a study aggregating 285 MUSIC survey results from 8 courses across 2 institutions, Jones (2019) finds significant links to both effort in the course as well as student ratings of the course and the instructor. Jones and Carter (2019) take a similar approach surveying 355 psychology students. They find that MUSIC perceptions do not directly influence learning. Instead, this study found that MUSIC perceptions, specifically eMpowerment and Usefulness, predicted cognitive engagement (the use of learning strategies by students). Cognitive engagement predicted behavioral engagement (the physical or observable actions students take, such as putting in effort, to engage with the educational material or course) which, in turn, predicted learning, thus demonstrating [2] and [3] in Figure 1.

These studies demonstrate the connection between MUSIC perception and a number of desirable outcomes (learning, course evaluations, instructor evaluations). The goal of this study is to show that, through course revision, we can affect MUSIC perception – step [1] in Figure 1. Based on the literature above, this should affect those desirable results, though it not measured.

Motivation in Marketing

There are a number of studies that use or discuss student motivation specifically within the field of marketing. As we shall see, these studies often use alternate metrics for motivation or lack a standardized measure altogether. This is not, in any way, a criticism of these studies; they are simply adopting an alternate interpretation of motivation. Further, we find an absence of a systemic approach; various methods are tired in a somewhat ad-hoc manner to see what results they yield. While these efforts are commendable

⁵ Ormrod (2012), p184.

– as is any attempt to improve student motivation, engagement, and performance – they may be more effective if integrated into a larger, organized approach to remediation.

Clarke et al. (2020) take a more literal approach to course redesign by exploring the influence of classroom design on marketing students by comparing traditional (fixed furniture in rows and a single focal point) and modern (moveable furniture, round desks, and multiple focal points) classroom spaces. Although there was no difference in overall grades, the traditional classroom setting led to more favorable student attitudes and some improved learning outcomes. Conversely, the modern classroom layout provided advantages for collaborative in-class assignments.

While not explicitly utilizing the MUSIC model for course redesign, Rayburn et al (2018) is a noteworthy study as it follows a course redesign using self-determination theory as a guiding framework. The researchers designed an upper-level integrated marketing communications course to fulfill students' psychological needs for autonomy, relatedness, and competence. Students reported higher autonomy and competence by the end of the experiential learning course, supporting SDT. They also showed increases in learning reactions, self-efficacy, engagement, and learning perceptions. The study also found that all three psychological needs—autonomy, relatedness, and competence—are relevant to student success. Specifically, learning motivation in the course correlated with both relatedness and competence.

One of the early forays was by Lantos (1997) who presents nine instructor attitudes that boost student motivation.⁶ These are the result of student surveys and his own personal experience coupled with his review of the education literature. Since then, several studies attempt to demonstrate the effect of a single modification on motivation or other outcomes. Using a two-question survey to measure motivation, Krishen (2022) investigates the impact of perceived project uniqueness to student motivation. She found that project uniqueness improved student motivation. That, in turn, improved both student attitudes and their likelihood to seek help. Also developing their own 7-point Likert-type scale survey of student motivation, Lilly and Tippins (2002) demonstrate the positive impact of a classroom environment specifically designed to enhance student autonomy with the implementation of student management groups in introductory and upper-level marketing courses. Using that same scale, Ackerman and Hu (2011) show that active learning strategies can produce significantly higher motivation and satisfaction for marketing undergraduate students who are high in autonomy.

Certain researchers diverge from using surveys and instead create alternative methods to gauge motivation. By analyzing student comments during the semester as well as on end-of-semester course evaluations, Wetsch (2009) shows that peer benchmarking can improve student motivation. Similarly, Saxton (2015) uses anecdotal evidence of motivation to demonstrate the effect of adding digital badging to a marketing simulation.

The significance of student motivation in the field of marketing is unmistakable, as evidenced by the attention it has garnered. The approaches employed to address this topic are quite varied, but we have observed a trend towards the one-off method. This approach involves experimenting with different techniques to address student motivation without a systematic approach. While the one-off method may demonstrate the effectiveness of specific pedagogical techniques, motivation may be best addressed with a more organized, methodical approach.

Other Applications of the MUSIC Model

The MUSIC model has been used as the basis for college-level course revision in many disciplines, including engineering, neuroscience, agronomy, computer science, and foreign language studies.⁷ These studies use the MUSIC model either to identify areas for improvement with regards to motivation and discuss possible remediation or, more relevant to the current study, employ the MUSIC model as a framework to redesign the course with discussion of both design modifications and their impact.

Numerous studies limit their approach to assessing motivation and plotting a course forward. While these studies do not share the entire process, it is encouraging to see instructors using the MUSIC model to organize their course revision. Gajewski (2019) administered the MUSIC survey in an applied computer science course. He finds relatively lower scores for eMpowerment, Success, and Interest but leaves remediation for future work saying “Is it possible to increase student motivation and, if it is, how to do that?”⁸ Grahofer and Suter (2020) identify a number of MUSIC interventions in a course on animal health: student

⁶ These are called The Principles of the Motivating Professor.

⁷ This literature review is limited to higher education. K-12 studies are not included.

⁸ Gajewski (2019) p. 403

involvement in course content, group work activities, field trips, and mock examinations. Usefulness and Interest were identified as the main interest going forward but, again, that work is not included in their study. Finally, Virquez and Reid (2017) compare student perceptions from 2 versions of an introductory engineering course. They find a significant difference between the two in Success and Caring (though in opposite directions) and discuss some of the tools to remediate. However, there are no specifics about the courses or demonstrations of the effect of remediation.

Other studies use the MUSIC model to demonstrate the impact of course redesign on student motivation. In engineering, Ball et al. (2019) were tasked with redesigning the freshman-level course from a theoretical lecture coupled with applied labs to project-based learning. The authors used both the MUSIC survey and a facilitator who conducted student focus groups for additional feedback and guidance. The team found little to no change in either the MUSIC survey results or course grade distribution. Based on these findings, the authors make several suggestions, such as taking into account the students' skill level, the number of subjects covered in the class, and getting faculty support for the new method. Tu and Jones (2017) redesign an introductory neuroscience laboratory course over 3 consecutive semesters. Modifications included adding a rubric for lab assignments to increase clarity in the grading system, providing examples of quality work, quiz redesign, and improving feedback. Surprisingly, MUSIC scores went down in all five scales!⁹ Finally, Li (2017) contrasted a traditional lecture class with one that incorporates MUSIC model strategies such as group work, group presentations and detailed feedback on performance. In addition, each week, instructors teaching the other sections of the same English course discussed a component of the MUSIC model and incorporated one activity from Jones's book, *Motivating Students by Design: Practical Strategies for Professors*, of their choosing for that component. She found all dimensions increased significantly except Success. She also found final exam scores increased significantly.

So, we see many applications of the MUSIC model to course revision. Notice that these previous studies are primarily from STEM disciplines. The pedagogical tools and approaches typically used in these fields, and foreign languages, for that matter, differ considerably from those in a business discipline.

In the current study, two sections of Principles of Marketing are offered during both the fall and spring semesters. The project begins by administering the MUSIC® Model of Academic Motivation Inventory (MUSIC Inventory) near the end of fall semester. Based upon the findings of this assessment and with guidance from *Motivating Students by Design: Practical Strategies for Professors*, aspects of the course are modified for the spring semester with the goal of increased motivation. Upon the conclusion of the spring semester, the MUSIC Inventory is administered once more to determine the efficacy of the tactics. Given this approach, concerns about the material and its impact on inclusivity can be set aside as the content was essentially identical both semesters.^{10,11} Overall, we find that incorporating a handful of *simple* pedagogical changes based on student input led to statistically significant increases in four of the five components of student motivation.

Some within the marketing field have recognized the importance of motivation and a few even target it with course modification. We believe this study marks the first application of a systematic course overhaul, distinctly aimed at amplifying motivation—particularly within the marketing domain and conceivably extending into the broader realms of business and the social sciences.

In the next section, we discuss the demographics of the student population and briefly describe the default teaching approach. We then discuss the administration of the survey, the initial findings, and proposed interventions. This is followed by a discussion of the second round of surveys. We conclude with a discussion of our findings and the limitation of this study.

METHODOLOGY

Principles of Marketing is a course designed for second-year students majoring in economics and

⁹ The authors explore diverse reasons to explain this counterintuitive result, including differences in the functions of teaching assistants and the nature of feedback.

¹⁰ The course followed the same calendar, used the same text, and given the slightest modifications, the same presentation slides.

¹¹ Considering the existence of two sections, the feasibility of conducting this experiment within a single semester was evaluated. Yet, owing to the modest class sizes and prevalent campus rumors, it was deemed imprudent to treat the two sections of a single course disparately under the same instructor.

business, but it is also open to advanced students outside of the major. Occasionally, first-year students with advanced standing may also enroll. As shown in Table 1, the majority of the class consists of underclassmen and majors, which is significant because individual characteristics such as GPA or standardized test scores may not be available for all study participants. In the fall semester, around one-third of the enrolled students were first-year students who do not have a GPA for comparison. Due to the optional inclusion of standardized test scores in the previous year's college application as a result of the exceptional circumstances caused by the COVID-19 pandemic, e.g., widespread closures of testing centers, there is no standardized SAT/ACT score available. These issues are likely to persist in the future.

Table 1: Course Composition by Class Year

Class year	Fall			Spring		
	Sect. 01	Sect. 02	Total	Sect. 01	Sect. 02	Total
2025	7	6	13	3	1	4
2024	5	13	18	11	15	26
2023	3	1	4	2	2	4
2022	3	0	3	4	3	7
ECBU/Non-ECBU	12/6	18/2	30/8	16/4	13/8	29/12

For this course, the instructor employs dynamic lecturing, an evidence-based teaching approach that combines lecturing with active learning (Harrington & Zakrajsek, 2017). Also known as interactive lecturing, this method goes beyond traditional lectures, in which the instructor delivers information to the students who sit passively and listen. Instead, throughout the duration of the class, lecture is intermingled with a variety of stimulating activities designed to encourage students to actively engage with the content and one another. These activities, in turn, allow learners to construct their own knowledge, with the hope that their understanding of the subject matter will deepen.

The syllabus follows a chapter-a-day approach aligned with 19 chapters in *MKTG 13* by Lamb, Hair, and McDaniel. Each class session began with an overview of that day's chapter followed by the new material itself. At the conclusion of class, students break into their project groups to review the content by discussing "*What aspects of today's lecture are relevant for a small coffee shop?*," as the instructor circulates the classroom to observe the interactions. At the next class meeting, the instructor facilitates a recap of the previous chapter by asking learners to contribute their key points from the previous day's class, before proceeding to the next topic.

The final grade is evenly split between exams, which consist of multiple choice and short answer questions, and a final group project in which teams of three to four students develop a marketing plan for a startup business (see Table 2). As an example of authentic assessment, this project is designed to simulate a real-world marketing scenario, and students must work together in teams to develop a comprehensive marketing plan that addresses the needs and goals of a real startup business. Team members must draw on a range of skills and knowledge to communicate effectively, delegate tasks, and work collaboratively to create a plan that is viable and effective.

In this study, the researchers employed the MUSIC Inventory, a 26-item questionnaire, to assess student perception of motivation (See Appendix A). The equivalent instructor version of the MUSIC Inventory was also used to gather data from the instructors.¹² Students completed the questionnaire at the 12th week of the spring semester on a voluntary basis, while the instructors completed their version at the beginning of the semester. Based on the survey results, the course was modified for the fall semester. The researchers then evaluated the impact of these modifications on the targeted motivation components by assessing the second group at the 12th week of the fall semester.

¹² The student surveys can be found in the appendix. The faculty survey is virtually identical to the student survey. It can be found www.themusicmodel.com.

Table 2: Assessment Components

	Assessment	Weight
Exams	3 In-Term Exams	20%
	Final Exam	30%
Project	Interim Paper	5%
	Final Paper	30%
	Presentation	15%

RESULTS

In the fall semester, 38 of 39 students completed the survey. The Cronbach tests of the internal consistency and reliability of the scales are reported in Table 3. All the alphas were good to excellent, i.e., from 0.71 to 0.91 (Kline 2005) for the Fall with an overall alpha of 0.81 for the MUSIC model elements combined and 0.91 for all the questions combined. This is true for the fall, spring, and combined studies.

Table 3: Cronbach's Alpha Values

Element	Fall 2021	Spring 2022	Combined
Empowerment	0.76	0.73	0.78
Usefulness	0.80	0.77	0.8/1
Success	0.77	0.73	0.79
Interest	0.71	0.75	0.76
Caring	0.80	0.78	0.82
Overall-MUSIC (Test Scales)	0.81	0.79	0.83
All Questions	0.91	0.91	0.92

Figure 2 presents both student and instructor survey results for the fall semester only.¹³ Looking first at the instructor's assessment, the course is strong (score above 5) in eMpowerment and Success while Usefulness was found to be relatively weak (score below 4). Interest and Caring were both solid.

In contrast to the instructor's perspective, students identified all areas as solid, with only Caring identified as strong.¹⁴ This first finding highlights the importance of considering the student perspective when evaluating course quality, as it reveals a discrepancy between the instructor's assessment and the students' experiences.¹⁵ By embracing the insights from both sides, a holistic view of course effectiveness emerges. Neglecting the instructor's perspective could limit the understanding of underlying teaching methodologies and intentions. Without integrating student viewpoints, the course enhancements might narrow their focus exclusively on rectifying the prioritized factor of Usefulness, identified by the instructor. This could inadvertently sideline the significance of fostering Interest and Caring, as perceived by the students. However, recognizing the value of the instructor's perspective and combining it with student feedback holds the potential to elevate all five dimensions of the course. This integrated approach not only acknowledges the instructor's expertise but also embraces the diversity of experiences within the learning environment, leading to a more comprehensive and effective educational experience. To better understand

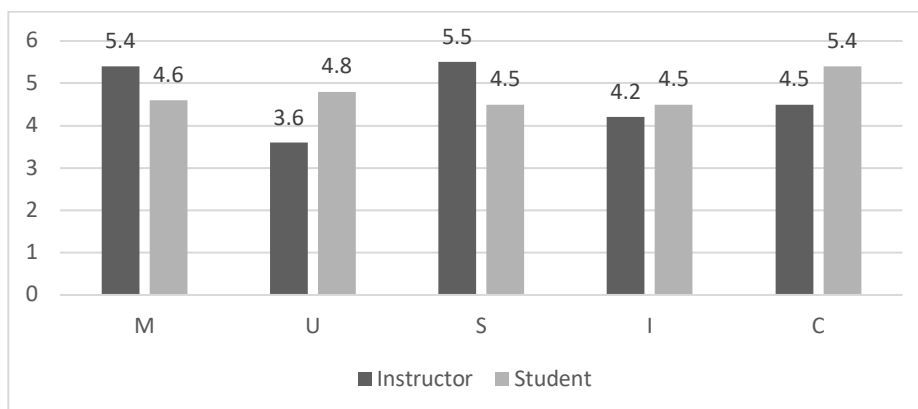
¹³ Given a single instructor, standard error bars are included for the student survey results only.

¹⁴ The instructor results fall outside the students' confidence interval for all five dimensions.

¹⁵ The disconnect between student and instructor perspective is not unique to this exercise. Alhija (2017) demonstrates this disconnect by contrasting the dimensions of good teaching from students and instructor lenses.

the reasons behind the instructor's assessment and the students' experiences, we provide a detailed rationale in our discussion below that illuminates the divergent perceptions. This analysis informs our planned remediation efforts, aimed at addressing the identified gaps, and improving the course overall.

Figure 2: Comparing Instructor and Student Results



eMpowerment

Assessment: The instructor assessment found eMpowerment quite strong. This was driven, primarily, by the number of critical decisions students make throughout the course (M.1).¹⁶ These included the specific business for the group project, selection of teammates, allocation of work within the group, and even choices within exams (students can select x of y short answer questions to answer, for instance).

Intervention: To improve this dimension of motivation, on Day 1 and throughout the course, the instructor highlighted the amount of control the students have (M.3.1). The instructor also made a point to share the reasoning for any policy or decision (M.3.2). For instance, the instructor clarified why they wouldn't be posting lecture slides, citing concerns about student attentiveness rather than laziness or ill will. In addition, the instructor incorporated an opportunity to earn bonus points (M.4) and explained not only the mechanics,¹⁷ but the rationale and value, in order to encourage buy-in.

Usefulness

Assessment: The instructor assessment identifies this domain as the weakest of the five. Students, on the other hand, scored it much higher. Upon further consideration, we recognize several activities that the instructor failed to appreciate in this domain. For instance, the instructor tries to relate the material to their own experiences in life by providing examples from their own experience or, better still, eliciting ideas and suggestions from students (U.1.1, U.3.4). Also, the instructor demonstrated the benefits to students in their daily lives from understanding the material (U.1.2), such as better consumer decision-making, more effective communications skills, and increased financial literacy and entrepreneurship skills.

Intervention: While the students' assessment exceeded that of the instructor's, there was still room for growth. To improve in this area, the instructor took the time to explain the importance of each assignment, how they build upon one another, and what students will learn from the process (U.1.3). Further, the instructor gave students the opportunity to search for usefulness themselves in the form of a media bonus,

¹⁶ Across the five MUSIC principles, Jones (2018) presents 23 strategies with 128 examples for inclusion to remediate specific underperforming domains. The notation is included to guide the reader to the section/example that drove the pedagogical change. M.1. indicates Empowerment Strategy 1 – Provide students with choices during class and within assignments while M.3.1 indicates the first example in Empowerment Strategy 3: Example M.3.1 - Explain to students how they have control.

¹⁷ This is dubbed the Media Bonus. In the course, the instructor tries to incorporate a number of external media sources (clips from movies and tv shows). However, in the eyes of undergraduates, these are likely dated and may not strike a chord with students. The Media Bonus offered students the opportunity to provide alternate media that might better resonate with their peers and explain its connection to a specific lecture. The benefits are two-fold. The instructor and future students gain through improved lecture materials. The students themselves gain as a result of the enhanced understanding required to identify relevant materials to a topic and convey its contribution to that topic.

discussed above (U.2.1).

Success

Assessment: Success was the strongest domain in the instructor's assessment. In reviewing the related survey question, the instructor based their confidence in the students' ability to succeed not on factors within the course but rather on pre-determinate factors – *if they gained admission to this institution and major, then they can succeed in the coursework*. Upon consideration, there are a few techniques in the course such as an interim paper, which is intended to mitigate procrastination (S.2.23) by breaking a larger assignment into smaller, manageable parts. In addition, the instructor creates a daily summary sheet outlining the topics discussed in that day's lecture (S.2.20), which helps students to see how the lecture topics fit into the broader course content and objectives and encourages students to reflect on their learning and to identify areas where they may need to focus their attention.

Intervention: Going forward, the instructor made several simple modifications to the group project. The paper was broken down into several smaller steps (S.3.1) which were submitted electronically (S.4.4). This allowed the instructor to give richer and more timely feedback¹⁸ (S.4.3). In addition, from Day 1 and throughout the semester, the instructor gave suggestions for study techniques (S.2.1) and made a concerted effort to speak slowly and enunciate, in addition to pausing and allowing students time to both digest the material and take notes (S.2.3).¹⁹

Interest

Assessment: In the instructor assessment, this domain came in on the lower end, but there are some elements already in play. For instance, there is the group project (I.2.1) which encourages students to delve into a topic and has, historically, been the favorite part of the class for many. In addition, the instructor consciously emphasized involving students in discussion and review (I.1.6) and incorporated novelty through group discussions and video clips (I.1.1) from some surprising sources (I.2.7).

Intervention: While students assessed this higher than the instructor, there is room for improvement. In the spring semester, the instructor administered a getting-to-know-you survey of student interest and incorporated some responses as examples in the course (I.4.1). In addition – and this may seem obvious – the instructor showed significantly more enthusiasm (I.3.1) about the lecture material, upcoming student meetings (*I am really looking forward to hearing your proposal for this project*) and submitted materials (*There are some great ideas out there. I am excited to see what you have put together.*) by being energetic and positive both in-person and in-writing.

Caring

Assessment: The instructor assessment of this domain was solid. The instructor uses personal anecdotes during class to make a point (C.1.6) and to foster a comfortable and relatable learning environment where students feel comfortable sharing their own experiences and engaging in classroom discussions. The instructor also schedules regular meetings with teams to provide feedback on their project-to-date and guidance going forward (C.3.5), which helps students stay on track and promotes accountability. In addition, the instructor was careful to link the core material in Principles of Marketing to other disciplines (C.5.1).²⁰ By connecting marketing principles to other disciplines, students can better see how marketing is relevant in a variety of career fields, expanding future career opportunities (C.5.2).

Intervention: While students already had a high opinion in this domain, the instructor continued to make a sustained effort to show respect for students by learning names, pronouncing them correctly, and addressing students by name during class.²¹ To be approachable (C.1.1), the instructor came to class early, greeting and chatting with each student, generally about their hobbies and personal interests, as they walked in, to show genuine curiosity in their lives beyond the classroom. To demonstrate availability, the

¹⁸ Young et al (2021) provides a nice introduction to the literature on feedback and an introduction to some innovations in this area.

¹⁹ Without getting into geographic or cultural specifics, it is in the instructor's nature to speak quickly.

²⁰ The instructor is a member of a joint economics and business department. Discussions among the faculty of cross-discipline integration has been common for some time.

²¹ This is not entirely new ground. Historically, the instructor would learn names ... eventually. But in the spring semester they prioritized doing so quickly (within 2 weeks). In the past, the instructor would engage in small talk with the students but normally those who were more extroverted and made a point to engage with more students.

instructor was deliberately the last to leave in case any students needed or wanted to talk, and mindful to respond to emails in a timely manner and being willing to meet with students outside of class time.

Before moving on to the spring results, it is important to share two items. The first is that, overall, these changes were minor and did not require substantial effort on the part of the instructor. The decision to make minor changes was deliberate because most instructors may think that redesigning their courses to incorporate all the elements of the MUSIC model requires a complete overhaul and redesign of the course. Table 4 summarizes both the existing and newly added strategies.

Table 4: Summary of MUSIC Elements

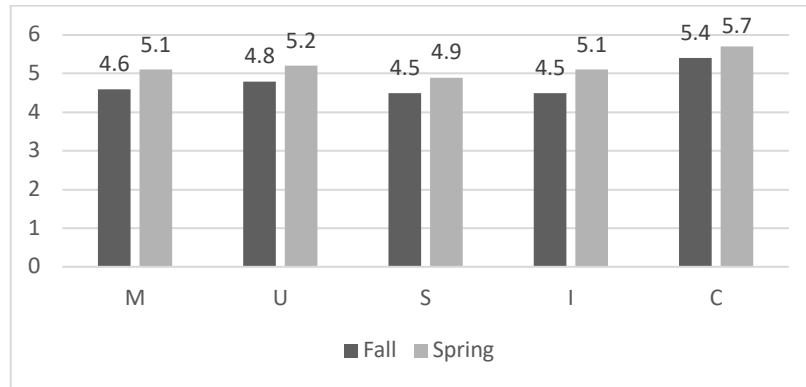
	Pre-existing strategies (Fall 2021)	Newly added strategies (Spring 2022)
eMpowerment	<ul style="list-style-type: none"> Students get to make a number of decisions throughout the course. 	<ul style="list-style-type: none"> Instructor highlighted the amount of control the students have. Instructor made a point to share the rationale for any policy or decision. Instructor incorporated an opportunity for bonus points.
Usefulness	<ul style="list-style-type: none"> Instructor tries to relate the material to their own experiences in life. Instructor demonstrated the benefits to students in their daily lives from understanding the material. 	<ul style="list-style-type: none"> Instructor took the time to explain the importance of each assignment. Instructor gave students the opportunity to search for usefulness themselves (media bonus).
Success	<ul style="list-style-type: none"> Interim paper to mitigate procrastination. Instructor creates a daily summary sheet outlining the topics discussed in that day's lecture. 	<ul style="list-style-type: none"> Papers were submitted electronically. The paper was further broken down into several smaller steps. Instructor to give richer and more timely feedback. Instructor gave suggestions for study techniques. Instructor made a concerted effort to speak slowly and enunciate.
Interest	<ul style="list-style-type: none"> Inclusion of a project which encourages deeper study. Instructor made it a point to consciously involve students in discussion. Instructor incorporates some novelty (groups discussions, video clips). 	<ul style="list-style-type: none"> Instructor showed more enthusiasm. Instructor administered a survey of student interest and made a point to incorporate some of their responses as examples.
Caring	<ul style="list-style-type: none"> Instructor often uses personal anecdotes. Instructor scheduled meetings with teams to provide feedback on their work to date and to provide guidance going forward. Instructor was careful to connect the material to other disciplines. Instructor discussed future career paths. 	<ul style="list-style-type: none"> Instructor worked to be more approachable. Instructor looked for opportunities to engage more student in small talk.

Second, the specific interventions were unique to this instructor. Another reader of *Motivating Students by Design: Practical Strategies for Professors* would likely select a different set of interventions given the same scenario. The object here is not to lay out a plan of attack for the reader to reproduce. The objective is to demonstrate the value of an organized course revision that incorporates student input through the MUSIC Inventory.

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Throughout the spring semester, the instructor implemented the changes discussed above.²² In week 12 of the spring semester, the instructor administered the MUSIC Inventory, again, on a voluntary basis. All 41 students completed the survey. As mentioned earlier, the Cronbach alphas are all very good for the scales in the Spring, thus providing evidence for to support the internal consistency and reliability for each scale. These results, alongside the student results from Fall 2021, are presented in Figure 3.

Figure 3: Fall and Spring Results, Students Only



Broadly speaking, what we see is an increase in all five domains as demonstrated by the higher bar graphs (means) in the Spring than in the Fall for each MUSIC element. What the means hide is the degree of variability which could affect the significance of the results. We test the statistical significance of these changes using difference-in-means analysis by estimating the model

$$Y_i = \beta_i + \beta_j X_i + \varepsilon_i. \quad (1)$$

Where Y_i is the MUSIC element estimated, and x_i is a dummy variable that takes the value of 0 for the fall semester (pre-intervention) and 1 for the Spring (post-intervention). ε_i is the error term and we assume this to be white noise. When X_i is 0, the mean of the Fall MUSIC element in our estimated model will be B_i . When $X_i = 1$ (Spring), the mean for the spring is $B_i + B_j$. Therefore, B_j represents the difference in means between the Spring and the Fall. We thus test the significance of this with robust standard errors. The results are reported in Table 5.

Table 5: Difference in Means Analysis

Element	eMpowerment	Usefulness	Success	Interest	Caring
Mean Difference	0.48**	0.42**	0.31	0.55**	0.24*
Standard Error	-0.16	-0.17	-0.19	-0.15	-0.1
t-Statistic	2.97	2.54	1.66	3.59	2.32
Confidence Interval	[0.16, 0.80]	[0.09, 0.75]	[-0.06, 0.69]	[0.24, 0.85]	[0.03, 0.44]
Number of Observations	74	74	74	72	73
F-Statistic	8.83	6.43	2.74	12.91	5.4
R-Square	0.11	0.08	0.04	0.16	0.07
Root MSE	0.69	0.71	0.81	0.64	0.44

Simple visual analysis of Figure 3, along with the statistical analysis in Table 5 demonstrates the potential influence that instructors can have with respect to student motivation through course design. We

²² It should be noted that the discussion above was restricted to changes that were fully implemented. Strategies that were considered but not acted upon were not included. For instance, the instructor had hoped to *flip* one class in each of the four modules to provide novelty in the lectures and enhance Interest. This did not happen. Not even once!

see that the changes in the means for all the MUSIC elements are positive and significant except for Success, which, while positive, was statistically insignificant.

By making minor but conscious modifications to the course design with motivation in mind, the instructor was able to increase student motivation in each of the five domains and significantly in four of the five. It is noteworthy to reiterate that while several changes were implemented, each was quite small in terms of effort, and that is at the heart of this paper.

DISCUSSION

This article presents a case study of an instructor's experience in revising a course with the primary objective of improving student motivation and subsequently increasing engagement and improving outcomes. The study builds upon existing literature supporting the notion that increased student motivation can lead to better learning outcomes. While similar efforts have been made in other disciplines, particularly in the STEM fields, this study represents the first application of the MUSIC Model in the field of business education.

This study produced two key findings, each with important implications for faculty seeking to improve their courses. The first finding revealed a significant disparity between faculty and student perceptions of course design and implementation. This discrepancy is particularly important when using assessments to revamp courses, as it can result in overlooking areas that require improvement.

To address this issue, it is critical to include student perspectives in course revisions through the use of the MUSIC Inventory or by inviting students to provide regular feedback throughout the term. Ignoring student feedback can lead to missed opportunities for improving course design and implementation and hinder the potential for student success. If learners do not feel heard or valued, they may not take the course or instructor seriously and become less motivated and engaged. Therefore, it is crucial to acknowledge and, more importantly, proactively address the discrepancies in perceptions between instructors and students.

The second finding of this study is that a few targeted changes to the design of the Principles of Marketing course resulted in significant improvements in four out of the five components of student motivation. Achieving these improvements was a streamlined process that included studying literature on student motivation, administering surveys, analyzing feedback, implementing changes to the course design, and reflecting upon those modifications. This simple approach makes for an attractive option for instructors juggling a full courseload as well as other professional responsibilities.

This finding emphasizes the potential for faculty to make meaningful improvements in student motivation through targeted course revisions. By using a systematic approach to course design and implementing targeted changes, instructors can create more engaging and effective learning experiences for their students without requiring a substantial investment of time or resources.

To put the findings of this study into context, it is worth noting that other researchers have taken similar approaches to enhancing student motivation in higher education. However, unlike previous studies that focused solely on initial assessment (Gajewski (2019), Grahofer and Suter (2020), and Virguez and Reid (2017)), this study went beyond assessment and included targeted course modifications and an analysis of the impact of those changes on student motivation.

Several others have made course modifications as a result of the MUSIC survey with differing results. In contrast to the findings of Ball et al. (2019), who found no significant impact on student motivation, and Tu and Jones (2017), who observed a decrease in motivation following course revisions, this study demonstrated a significant increase in four of the five components of student motivation. These findings are consistent with the work of Li (2017), who was also able to increase student motivation through targeted course alterations.

Limitations of the Study

It is important to acknowledge the limitations of this study, particularly with regard to the inability to analyze outcomes such as learning and achievement. While it would have been valuable to assess these outcomes, doing so without additional explanatory variables such as GPA or SAT/ACT scores would be inappropriate. Therefore, this study focuses on the connection between course design and student motivation.

This study is also limited by the lack of qualitative data to supplement the quantitative findings. While the numerical data shows how different dimensions of motivation were impacted by the course

modifications, qualitative insights could have provided a deeper understanding of why students responded in these ways. Qualitative data could have helped unpack the mechanisms through which the course changes affected motivation, as well as how these motivational shifts translated to perceptions of learning and performance. In future studies, incorporating mixed methods with both quantitative instruments and qualitative techniques like interviews or reflections would lead to richer and more explanatory findings regarding student motivation.

Another limitation of this study is its specificity, as it represents the experience of one faculty member at a small liberal arts college in the mid-Atlantic who revised a single course, Principles of Marketing. However, the findings of this study are still relevant and applicable, as they demonstrate the potential for instructors to improve student motivation through targeted course revisions. While the specific strategies and interventions will vary depending on the subject matter, course level, and instructor's personal style, the study highlights the importance of following a systematic and organized approach to course revision, offered by *Motivating Students by Design: Practical Strategies for Professors*, that incorporates student feedback.

One concern with the study's approach is the use of two sections in the Fall, followed by course modifications and reassessment in the Spring. While this may limit the ability to draw firm conclusions about the impact of the modifications, it does provide a broader range of pedagogical changes that can be made over a longer timeframe. For instance, it would have been impossible to adjust the number of steps in the project within a single 14-week semester. By using a two-semester approach, instructor had a much broader range of modifications available. Additionally, this approach more closely reflects an instructor's actual experience of revising a course based on past experiences and student feedback. It is also worth noting that a case study included in *Motivating Students by Design: Practical Strategies for Professors* used a similar approach, thus demonstrating its suitability.

Overall, while this study has limitations, it provides valuable insights for faculty seeking to enhance their teaching practices and improve student motivation in higher education. By taking a systematic and data-driven approach to course design and revision, instructors can create more engaging and effective learning experiences for their students, ultimately leading to better outcomes and increased student success.

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APPENDIX A

MUSIC Inventory (College Student version, present tense)

(to be administered near the beginning or middle of a course, although it can be used at the end)

Instructions

Please rate the items in this section using the following scale:

1	2	3	4	5	6
Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly Agree

Note that the word “coursework” refers to anything that students do in the course, including assignments, activities, readings, etc.

- _____ 1. The coursework holds my attention.
- _____ 2. I have the opportunity to decide for myself how to meet the course goals.
- _____ 3. In general, the coursework is useful to me.
- _____ 4. The instructor is available to answer my questions about the coursework.
- _____ 5. The coursework is beneficial to me.
- _____ 6. The instructional methods used in this course hold my attention.
- _____ 7. I am confident that I can succeed in the coursework.
- _____ 8. I have the freedom to complete the coursework my own way.
- _____ 9. I enjoy the instructional methods used in this course.
- _____ 10. I feel that I can be successful in meeting the academic challenges in this course.
- _____ 11. The instructional methods engage me in the course.
- _____ 12. I have options in how to achieve the goals of the course.
- _____ 13. I enjoy completing the coursework.
- _____ 14. I am capable of getting a high grade in this course.
- _____ 15. The coursework is interesting to me.
- _____ 16. The instructor is willing to assist me if I need help in the course.
- _____ 17. I have control over how I learn the course content.
- _____ 18. Throughout the course, I have felt that I could be successful on the coursework.
- _____ 19. I find the coursework to be relevant to my future.
- _____ 20. The instructor cares about how well I do in this course.
- _____ 21. I will be able to use the knowledge I gain in this course.
- _____ 22. The instructor is respectful of me.
- _____ 23. The knowledge I gain in this course is important for my future.
- _____ 24. The instructor is friendly.
- _____ 25. I believe that the instructor cares about my feelings.
- _____ 26. I have flexibility in what I am allowed to do in this course.

eMpowerment: items 2, 8, 12, 17, 26

Usefulness: items 3, 5, 19, 21, 23

Success: items 7, 10, 14, 18

Interest: items 1, 6, 9, 11, 13, 15

Caring: items 4, 16, 20, 22, 24, 25