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Implementing Relatedness-Supportive Teaching Strategies to Promote Learning in the College Classroom

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Abstract

Introduction: Relatedness—a sense of meaningful connectedness and belonging—is one of the basic psychological needs proposed by self-determination theory.
Statement of the Problem: The current literature lacks evidence-based strategies that support student relatedness in the college classroom. In education, research has indicated *what* strategies support relatedness, but not *how* to implement this well-established and important concept in the college classroom.
Literature Review: Self-determination theory suggests that supporting relatedness between the instructor and students, and among students, can foster intrinsic motivation, internalization of extrinsic motivation, and performance in educational settings.
Teaching Implications: We present four evidence-based relatedness-supportive strategies—facilitating learning connections, preventing student self-silencing, providing and receiving feedback, and developing a student-centered classroom—to help promote greater student engagement and success in the classroom. We also share our examples and experiences applying these strategies as an instructor and an undergraduate teaching assistant in a physiological psychology course.
Conclusion: Feedback from students and our reflections suggest that the four strategies are effective, which can be adopted and adapted by other instructors to implement in their classrooms.

Keywords

self-determination theory, motivation, relatedness, psychological needs, higher education, instructor–student relationships

> Nobody cares how much you know until they know how much you care.
>
> - Theodore Roosevelt

The American Psychological Association (2013) proposed undergraduate psychology learning goals, including knowledge base, scientific reasoning, ethical and social responsibility, communication, and professional development. These goals require student motivation to achieve (Marshik et al., 2015). Unfortunately, our achievement-driven education system reinforces external motivation, such as earning good grades rather than mastering the materials (Kaufman & Dodge, 2009). One strategy to reverse this phenomenon, based on self-determination theory (SDT; Deci & Ryan, 2000), is to foster intrinsic and self-determined motivation through supporting student relatedness (Furrer & Skinner, 2003; Kaufman & Dodge, 2009; Ruzek et al., 2016; Stone & Springer, 2019).

Self-determination theory is a motivation theory applied across contexts, including education, to explain performance and well-being (Deci & Ryan, 2000). Self-determination theory posits that satisfying the three basic psychological needs—*autonomy*, *competence*, and *relatedness*—are essential to self-determined motivation, engagement, and performance. *Autonomy* refers to volition and a sense of ownership. In the classroom, autonomy satisfaction may manifest through voluntary participation and contribution to discussions from personal interests. *Competence* is the perceived ability to accomplish tasks. Students may experience competence satisfaction when successfully comprehending and applying the information learned. *Relatedness*, the focus of this article, is a sense of connectedness and belonging, satisfied through meaningful relationships and interactions (Deci & Ryan, 2000). Self-determination theory highlights specific characters of relatedness, involving authenticity, unconditional

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positive regard, and support for autonomy (Ryan & Deci, 2017). This conceptualization of relatedness forms the basis of our discussions on corresponding teaching strategies.

Components of relatedness satisfaction include not only an individual sense of connectedness but also a collective sense of inclusion and harmony in group settings Vansteenkiste et al., 2020). Relatedness in education may be satisfied through open conversations and personal connections between the instructor and students (Vansteenkiste & Ryan, 2013). When psychological needs are supported through quality instructor–student relationships, students across gender, age, and culture show greater intrinsic motivation and academic success (Reeve, 2009; Wang et al., 2019). In addition to enhancing intrinsic motivation, relatedness support also helps internalize extrinsic motivation (Deci & Ryan, 2000). For instance, when instructors demonstrate care to support student learning unconditionally, students are more likely to experience self-determined motivation (an adaptive, internalized form of extrinsic motivation) even if the subject is not intrinsically motivating to them.

Instructor support for autonomy (e.g., providing rationales and choices) and competence (e.g., providing optimal feedback and clear expectations) has extensive empirical support for improving student performance and motivation in education (Reeve, 2009; Vansteenkiste & Ryan, 2013). However, without support for relatedness in learning, intrinsic motivation and task performance tend to decrease (Sheldon & Filak, 2008; Vansteenkiste et al., 2020). Studies in real-world teaching contexts have shown that students have lower engagement and greater school-related anxiety when their relatedness is not satisfied (Kaufman & Dodge, 2009; Klassen et al., 2012). Moreover, thwarting relationships contributes to relatedness frustration, which can negatively impact students' academic performance (Niemiec & Ryan, 2009).

So, how can instructors provide relatedness support? The literature has demonstrated the "what"—instructor involvement and respect for students that promote relatedness (Niemiec & Ryan, 2009; Walton et al., 2012), but not as much the "how"—evidence-based teaching strategies that enhance these elements. Through our experiences as a psychology instructor and SDT scholar (second author) and an undergraduate TA (first author), we connect theory to practice in this article by summarizing relevant research, proposing four relatedness-supportive strategies in the college classroom, and providing examples of corresponding practical activities in a physiological psychology course. Additionally, we provide recommendations for other psychology instructors, based on student feedback and our reflections.

Evidence of Relatedness Support and Satisfaction in Education

Self-determination theory research in education has shown that teaching practices that support autonomy and self-improvement goals foster greater student relatedness satisfaction (Kaufman & Dodge, 2009; Steele et al., 2018). These practices may include incorporating individualized feedback on student progress and engaging in group discussions with students on an online platform. In turn, students also gain the ability to engage in assignments and learning tasks in the classroom (Kaufman & Dodge, 2009; Tu & McIsaac, 2002). However, instructors can, intentionally or unintentionally, exhibit controlling behaviors such as criticism and demands, which can frustrate student relatedness. This need frustration could lead to controlled motivation and academic failures, such as inability to learn the course content (Davis, 2003; Ruzek et al., 2016). In a laboratory experiment, Sheldon and Filak (2008) manipulated instructor need support and thwarting in a learning task, revealing that the students in the relatedness-thwarting condition had lower intrinsic motivation and task performance than the relatedness-support conditions.

Various relatedness-supportive strategies in the classroom exist. Effective relatedness support often incorporates an empathetic attitude that elevates a sense of freedom and connection for autonomy and relatedness satisfaction, respectively (King, 2015; Reeve, 2009; Reeve et al., 2014; Wang et al., 2019). Rapport building can foster a sense of community and minimize communication barriers between an instructor and students (Steele et al., 2018). However, the literature relies on mostly K-12 education rather than higher education and focuses on the "what" rather than the "how" of implementing these relatedness-supportive strategies. To translate the concept of relatedness support to concrete college teaching practices, we adapted research from various educational settings, including K-12 classroom and physical education contexts (e.g., Niemiec & Ryan, 2009; Sparks et al., 2017), to discuss how we implemented relevant strategies and provide practical advice for psychology instructors.

Practical Advice for Implementing Relatedness-Supportive Strategies

Classroom instruction is crucial for teaching and learning. Unfortunately, classroom instruction can also make students feel disconnected from the instructor or course content, reducing authentic interactions if the instructor–student relationship is lacking (Tu & McIsaac, 2002). Instructors can implement simple, evidence-based strategies to support relatedness without changing their course or curriculum substantially. Although we specifically target relatedness support, autonomy and competence support also play a critical role in the strategies presented (Sheldon & Filak, 2008).

In the following subsections, we provide four recommended strategies based on the aforementioned SDT research findings in education and our combined educational experiences: (1) facilitating connections between the course materials and student life, (2) showing openness to prevent student self-silencing, (3) providing positive and constructive

feedback and asking for student feedback, and (4) developing a student-centered classroom. These strategies, selected to facilitate communication between the instructor and students and improve the course quality related to psychological need satisfaction, were implemented in a physiological psychology course consisting of 45 undergraduate students (approximately 70% psychology, 20% biology, and 10% other majors).

As physiological psychology is a rigorous upper-level course, students must exhibit advanced understanding and application of the concepts. Further, this course tends to be particularly challenging because some psychology students especially struggle in biology-based courses. Our proposed evidence-based strategies have the potential to enhance student relatedness and success in particularly challenging and content-heavy courses.

Facilitating Student Connections to the Course

Lecture content should bring the course information to students' everyday life. For example, instructors should implement visual graphics, diagrams, or descriptions that have the best chance of being relevant to students' lives, such that they can better understand course concepts. Although textbook companies often provide instructional materials for convenience, including presentation slides, instructors should hesitate before teaching directly from those text-heavy and often dry slides. When students are unfamiliar with the many different vocabularies on the lecture slides, they often feel confused or disconnected (Klassen et al., 2012). Instead, creating lecture materials (e.g., real-world stories or pictures) that facilitate connections and incorporate relatable ideas can promote student engagement and a sense of belonging. For example, if an instructor teaches new concepts such as neurotransmitters and their functions, they can supplement lectures with an interactive activity or a funny video (e.g., "Hey, Brain Sister": https://www.youtube.com/watch?v=XP9IEoCw5W4) (Sismey & Hunt, 2018). An interconnection between autonomy and relatedness is present in "application to real-life" activities. Beyond relatedness, autonomy is also satisfied to facilitate self-determined motivation in learning (Deci & Ryan, 2000).

In our course, we implemented activities through which the students were able to see and apply concepts taught in the context of real-life scenarios. For example, within the unit on neurophysiology and the transfer of electrochemical information in and between neurons (a difficult concept for many students), we include a modified "acting out the neuron" activity (Simon-Dack, 2011) that prompted students to physically demonstrate this process (Hamilton & Knox, 1985). They stood next to each other and held signs of different characteristics of synaptic transmission. The students had to move around, interact within their group, and communicate with us about their thought process to correctly place themselves in order. Having a TA was particularly helpful in the development phase and in the classroom implementation of these strategies because she could provide her student perspective regarding activities might be optimally challenging and fun for the current college population.

In the standard course evaluation form, students reported that various activities helped them make connections between challenging concepts and real-life examples with which they were familiar—a sign of connectedness and relatedness satisfaction. Students provided an average rating of 8.7/10 for the item on *relevance of the course for your own development in terms of appreciating new perspectives*, *broadening your outlook*, *etc*. Additional comments on this item included, "It is taught in a way that I can reflect on my own life. I like that" and "The book lacked clarity, but the class helped clarify." Other open-ended feedback that further illustrated this relatedness included, "This was the first semester of my college career that I actually enjoyed coming to class and looked forward to every Tuesday and Thursday. I find myself weaving information from Physiological Psychology classes into daily conversations" and, "The TA helped explain course materials and designed good activities for us to memorize concepts."

Showing Openness to Prevent Student Self-Silencing

As social creatures, we abide by socially acceptable standards based on societal roles, norms, and social status, which could contribute to self-silencing—the tendency to silence self-expression to avoid interpersonal conflicts (Patrick et al., 2019). Self-silencing removes authentic interactions between social agents, such as instructors and students, when they present themselves as being "professional" by creating a disingenuous portrayal of themselves (e.g., the instructor only talks about academic content with students), especially for students who perceive low academic ability to share their viewpoints (Spratt et al., 1998). Instead, through self-expression and genuine interactions, both the instructor and students can build a supportive environment that promotes a high-quality relationship between the instructor and students as well as among students themselves (Patrick et al.). For example, instructors can express how they feel when they or students have good (e.g., upcoming graduation) or bad (e.g., pandemic) news and experiences to share. During the sharing, instructors can actively observe, listen, and respond to students positively and constructively (e.g., focusing on student strengths and what went well) to support their relatedness along with autonomy (Chu, 2022).

In our classroom, we incorporated low-stakes presentations and discussions for students to share their life experiences, or those of friends and family members, to the degree that they were comfortable. These activities were intended for physiological psychology applications, such as color blindness being more common in males than females and spicy tolerance

being related to pain receptors. We were quite surprised that several students shared deeply personal stories, reached out for help when struggling, and initiated genuine conversations about their lives. For instance, one student shared with us that, due to their painful arthritis, they wanted to have the lecture slides earlier to strategically take notes ahead of time instead of during the class period. Another student shared their understanding of schizophrenia due to their brother's diagnosis. As the course progressed, students extended their empathy toward each other, which created an environment in which not only the instructor but also the students supported student relatedness.

The abovementioned observations are supported by student evaluations, particularly the item on instructor relationship with students, including sensitivity to student feelings, acceptance of questions and different views, etc., which received the highest average rating of 9.71/10 across all evaluation items. A sample comment on this item was, "I love the eyes and smile thing.[1] It makes class real and personal, a break from life struggles when my focus is just on this class" and "I like the way he allows for students to always ask questions and always respond to them." Other open-ended feedback that illustrated this included, "The instructor was very open to meeting you or talking on the phone regarding any questions or concerns. I really embraced his open-mindedness and willingness to help" and "The TA makes me feel totally free to ask questions without judgment."

Providing Feedback and Asking for Feedback

Instructors can apply both verbal feedback that may be more direct (i.e., immediate, straight-forward corrections) and written feedback that may be more indirect (i.e., constructive comments for repeated retrieval) as deemed necessary for the learning circumstances (Nusrat et al., 2019). Paired with truthful and caring messages for student improvement, direct feedback can help students understand collectively what they have done well and what they could improve in their learning and course performance (Steele et al., 2018). Meanwhile, indirect feedback should prompt students to apply critical thinking for making corrections (Nusrat et al.). In our course, we incorporated change-oriented feedback that pointed out concrete areas of improvement and considered student feelings to support student relatedness (Mouratidis et al., 2010). Although the main purpose of this strategy was to support relatedness, this feedback approach also promotes competence (Sheldon & Filak, 2008; Sparks et al., 2017).

Collecting anonymous student feedback could be done after an exam, activity, or unit (Ruzek et al., 2016). By inviting students to share genuine feelings and thoughts, instructors can better understand what the students enjoy, find challenging, and want to learn from the course (Gallien & Oomen-Early, 2008). In our course, we collected direct student feedback on whether, and how, in-class activities were helpful for their learning and what changes they suggested. Using brief, anonymous exit slips, the students wrote their responses that were later entered into a spreadsheet for analysis. Further, after every exam, we asked students to write down their thoughts on the exam and reflect on their performance, including (a) whether they were satisfied with their results and why, (b) what strategies they used to study for the exam and what would they try next time, and (c) what they wanted the instructor to do to help them succeed in the next exam (e.g., exam review method). In addition to the typical end-of-semester course evaluation, we also encouraged students to complete two mid-term evaluations through instructor-designed online surveys. Asking for multiple inputs from students allows them to voice their opinion comfortably and feeling valued by their instructor (Stone & Springer, 2019), while also allowing us to adjust the class to address their needs.

In the course evaluation, the item targeting *instructor involvement in the course, such as providing prompt feedback, keeping in touch with students, etc.* had an average rating of 9.54/10, supporting the effectiveness of our approach to providing and collecting feedback. An additional comment that illustrated this was, "He requested a lot of feedback and keep us engaged!" Other feedback included, "His efforts made me feel appreciated as a student and I hope others felt the same" and "I appreciate his helpfulness and desire to learn more about and get to know his students. He made my transition from a community college to a 4-year university a lot easier!"

Developing a Student-Centered Classroom

Teaching through a student-centered rather than instructor-centered lens fosters student interests in learning (Brandl et al., 2017). A student-centered classroom creates an environment that supports student exploration through teamwork (Brush & Saye, 2000), such as working collaboratively through interactive activities (Jones, n.d.) under instructor guidance (Smit et al., 2014). In contrast, an instructor-centered classroom creates an authoritarian climate that controls student learning with one-way instructions that undermine psychological needs (Smit et al.). To promote a student-centered classroom, instructors can create a "buddy system" through which the two buddies share ideas, get creative, and explore course contents using primary (e.g., textbook) and secondary (e.g., credible webpages and additional articles) sources instead of relying on the instructor to provide all the information (Brandl et al., 2017). A successful student-centered classroom could support relatedness along with autonomy and competence by asking students to take ownership and provide feedback to each other in the learning process (Sheldon & Filak, 2008; Wang et al., 2019).

We created a student-centered classroom by assigning the students to small groups to work together on weekly quizzes, discussions, and a presentation on a physiological psychology topic. To encourage real-life applications, the groups had the

autonomy to choose a target for their presentation to a professional audience (e.g., nurses, therapists) with which they were interested in working. Furthermore, the students engaged in weekly online group discussions to share three things they were grateful for each week before applying the textbook concepts to their daily life. Through these small-group interactions, the students were able to bond with their classmates in a genuine and personal way (Chu, 2022). Additionally, as resources allow, instructors may incorporate a TA or peer mentor who could provide a student perspective when facilitating activities and connecting assignments with real-life applications (Lynch & Pappas, 2017). In our experience, the students enjoyed having a TA who was available to not only help them understand the course content through a "peer" explanation but also offer advice beyond the classroom conversations. The TA had greater awareness of the current college student experience, helping bridge the (knowledge and generation) gap between instructor and student understanding of student learning by making better connections between the course contents and relevant real-world examples. The formal and informal interactions between the TA and the students provided additional relatedness support that the instructor might be unable to as an authority figure.

Based on the evaluation data, 100% of the students strongly agreed with having *the opportunity to sufficiently interact and engage with other students through discussions, activities, presentations, etc, in the course*. Additional comments on this item included, "I like the group quizzes because they give us a chance to talk with each other about the topics" and "the group aspect of the class helps with class engagement and knowing peers." Other open-ended feedback that represented a student-centered classroom included, "The professor had us do online discussions with our project group members regarding what we were individually struggling with content-wise, instead of just testing all of us" and "The professor broke us up in groups, and we were then able to speak with our group and work on our project, which was very useful. The professor and his TA were always there to help us, which was great."

Conclusions

Supporting students' psychological needs—*autonomy*, *competence*, and *relatedness*—is important for motivation, engagement, and performance in the college classroom. As relatedness is the need that received the least attention in research and practice (King, 2015; Klassen et al., 2012), especially in higher education settings, we summarized relevant research findings and provided practical strategies that psychology instructors could implement. We are aware that many instructors are already using some of these proposed relatedness-supportive strategies (and others not discussed here). However, we emphasize that applying SDT with explicit intention to support relatedness is helpful for designing syllabi, assignments, and activities. In other words, our proposed strategies may seem to be relatively clear and even obvious, but incorporating them effectively across various subjects, such as the more challenging and biology-heavy physiological psychology, may be less clear without a motivation theory and some practical applications in mind.

Implementing relatedness support can be rewarding for all parties because it satisfies the relatedness need of not only students but also instructors (Klassen et al., 2012). As we realized that the students had greater relatedness satisfaction and connection with the materials, we were able to deliver content more effectively and create more meaningful relationships with students. After seeing the engagement and successes, we feel even more motivated to further implement relatedness-supportive teaching strategies in future courses and to share these strategies with other instructors. Thus, we encourage instructors to consider the relatedness-supportive strategies presented in this article, as contextualized by individual teaching philosophies and the needs of specific student populations.

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Note

1. "Eyes and smile" is a routine that the instructor incorporates at the beginning of each class period. The routine starts with the instructor saying, "Can I have your eyes and smile, please?" Then, students stop what they are doing, provide their undivided attention to the instructor, and the instructor and students take a moment to greet each other with an energetic "Good afternoon!" before starting the class. This routine helps students acknowledge their presence in the classroom and "warms them up" to listen and talk during class.

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