Using Applied Behavior Analysis (ABA) Principles to Boost College of Business Students' Helping Behaviors

Sammy Muriithi
University of Central Oklahoma

Cassie Muriithi
ABA Co-op

Daniel Ngugi
Minot State University

Helping behavior is an important component of organizational citizenship behaviors that has been found to enhance performance among employees and students. However, despite its established benefits, business schools often prioritize technical skills over these prosocial, soft-skill competencies, which may hinder the development of well-rounded organizational leaders. The field of Applied Behavior Analysis (ABA), with its empirically validated approaches to behavior modification offers promising opportunities to address these shortcomings in business education. In this paper, we propose a framework for applying ABA principles to enhance helping behavior among business school students. Although tailored to a business school, these recommendations can easily be modified to fit other non-business school learning environments.

Keywords: helping behavior, business education, applied behavior analysis, behavior modification, prosocial behavior, antecedent-behavior-consequence model

INTRODUCTION

Contemporary organizational challenges and the rapidly evolving business and learning contexts have heightened the need for the creation of collaborative work environments. They have also brought new emphasis on the importance of prosocial behaviors in business settings. Helping behavior, defined as an individual's voluntary assistance to coworkers who experience task-related issues (Podsakoff et al., 2000), is one of the key organizational citizenship behaviors (OCB) that have emerged as pivotal in the accomplishment of work in team settings at the workplace. Indeed, at the group level, helping behavior is a crucial component of OCB that has been documented to enhance organizational performance (Choi, 2009). However, despite its established value, business schools often prioritize technical skills over these prosocial, soft-skill competencies, which may hinder the development of well-rounded organizational leaders (Quintans-Júnior et al., 2023). This imbalance often results in graduates who are adept at solving

technical problems but lack the emotional intelligence and ethical judgment needed to navigate complex social and environmental challenges in the workplace (Debbie et al., 2022; Marathe et al., 2020).

The field of Applied Behavior Analysis (ABA), with its empirically validated approaches to behavior modification, offers promising opportunities to address the aforementioned shortcomings in business education. Though the approaches were developed in clinical school settings to help students with maladaptive behaviors, ABA's fundamental principles of reinforcement, shaping, and environmental modification have demonstrated remarkable success in promoting desired behaviors across various contexts. In their review, Heward et al. (2022) show ABA has significant potential in shaping human behavior in over 350 fields. In healthcare, ABA is primarily applied in assessing and treating behavioral issues in individuals with intellectual disabilities, teaching skills to children with autism, and providing rehabilitation and health programs (Kelley et al., 2015). In business settings, ABA principles are applied in consumer behavior research (Foxall, 2017; Wells & Hantula, 2014), customer service (Johnson & Fawcett, 1994; Rice et al., 2009), and employee performance (Goomas, 2010; Abernathy & Lattal, 2014). While extensively used in educational and clinical settings, ABA remains relatively unexplored in university business education. This paper examines the potential of ABA for fostering helping behavior among business students, a crucial skill for future managers and leaders.

In this paper we propose a framework for implementing ABA principles to enhance helping behavior among business school students. By developing these behaviors during college, students can build a critical skill that could significantly contribute to their future success in the workplace. By synthesizing research from ABA, organizational behavior, and educational psychology, and we present evidence-based suggestions on how specific ABA techniques can be integrated into business school curricula to cultivate a culture of mutual helping behavior. This integration is particularly timely as organizations increasingly emphasize emotional intelligence, teamwork, and social responsibility as core competencies for business leaders (AACSB, 2024).

LITERATURE REVIEW

Helping Behavior and Its Role in Business Education

Recent research in applied behavior analysis (ABA) and organizational behavior has emphasized the significance of peer-facilitated helping behaviors in fostering collaborative learning and enhancing performance (Cialdini & Goldstein, 2004). Within behavior analysis, helping behavior is often reinforced through social feedback, especially when people expect or experience mutual support (Saini et al., 2016). One key motivator is the complementary capabilities model, where people offer help not just out of altruism but because they anticipate receiving help in return when needed (Blau, 1964; Cropanzano & Mitchell, 2005). This reciprocal exchange strengthens group cohesion and boosts engagement in both academic and workplace environments (Podsakoff et al., 2000; Bakker & Demerouti, 2017).

Helping behavior is central to organizational citizenship and teamwork. In competitive business school environments, fostering this kind of behavior can be difficult but necessary for developing well-rounded professionals. ABA's focus on observing, measuring, and improving meaningful behaviors makes it a strong framework for tackling this challenge. Helping behavior encompasses voluntary acts that benefit others without expecting immediate rewards (Organ et al., 2018). In higher education, it covers a range of prosocial actions that support peers and the academic environment. Unlike formal group work or assigned peer tutoring, these behaviors often happen informally, outside structured activities (Chiaburu & Harrison, 2008). LePine and Van Dyne (1998) refer to these as "affiliative-promotive" behaviors, that is, spontaneous efforts that build relationships while advancing group goals. Though not formally assigned, these actions still contribute meaningfully to academic success (Podsakoff et al., 2000).

Types of Helping Behavior in Higher Education

Helping behaviors in academic settings come in different forms, each serving a unique function. Drawing from both educational and organizational research, several categories stand out:

- *Academic Support Behaviors* include helping others understand course content, offering feedback, sharing notes, or tutoring (Webb, 2008). These actions promote learning and are especially helpful for students who are struggling (Johnson & Johnson, 2009). They can be brief or more involved, but all support academic achievement.
- *Resource-Sharing Behaviors* involve giving access to tangible materials like textbooks, study guides, or laptops (Kuh et al., 2010). This also includes tips on navigating institutional systems, connecting with mentors, or sharing job and internship leads. These behaviors help level the playing field by expanding access to resources and information.
- *Emotional Support Behaviors* include showing empathy, offering encouragement, and validating others during stressful academic moments (Linnenbrink-Garcia, 2014). These exchanges don't just support the receiver, but also benefit the person offering support by promoting emotional regulation (Zaki & Williams, 2013).
- *Instrumental Support Behaviors* are practical actions that ease academic responsibilities, such as helping with tech issues, covering tasks during illness, or assisting with group logistics (Thoits, 2011). These small acts can reduce friction and create better conditions for learning.
- *Mentoring and Developmental Behaviors* involve ongoing guidance that goes beyond immediate tasks. These relationships provide feedback, encouragement, and role modeling that support long-term growth (Crisp & Cruz, 2009). While many schools offer formal mentoring programs, informal mentoring often evolves through consistent helping over time.

Benefits of Helping: Recipient and Provider Outcomes

Research shows that when people help others because they genuinely want to, both parties benefit. Students receiving help improve their academic performance through direct knowledge gains (Webb, 2008), gain a better understanding, experience improved problem-solving, and develop increased self-confidence (Chi et al., 2001). Indirect benefits include greater psychological safety and a sense of belonging (Walton & Cohen, 2011), which strengthen students' connection to their institution and their commitment to graduation (Tinto, 2006). Surprisingly, those who provide help often gain as much, or even more, from these exchanges. Grant and Dutton (2012) found that helping others consistently predicts increased wellbeing, life satisfaction, and positive feelings. Hui et al. (2020) report similar findings, indicating that helpers experience better emotional and physical well-being from helping. Helping activates reward centers in the brain and releases oxytocin, creating what some call a "helper's high" (Post, 2005).

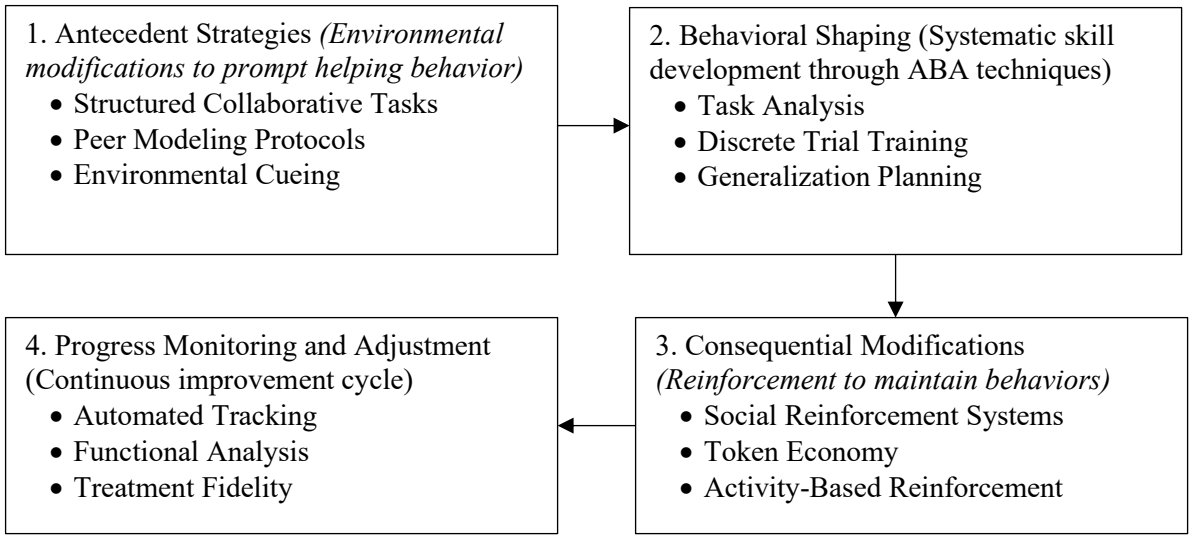
In academic settings, peer teaching significantly enhances mastery of content through retrieval practice, improved organization of knowledge, and increased self-awareness (Roscoe & Chi, 2007). Beyond individual benefits, helping behaviors improve the educational environment as a whole. Schools with consistently high levels of peer assistance develop stronger learning communities (Zhao & Kuh, 2004), better knowledge sharing (Cross & Parker, 2004), and collaborative cultures that prepare students for team-based work environments (Colbeck et al., 2000).

APPLYING THE ANTECEDENT-BEHAVIOR-CONSEQUENCE (ABC) MODEL TO PROMOTE HELPING BEHAVIOR

The Antecedent-Behavior-Consequence (ABC) model from applied behavior analysis offers a practical framework for encouraging prosocial interactions in academic settings (Cooper, Heron, & Heward, 2020). The model analyzes behavior as a function of its environmental context and resultant outcomes (Skinner, 1953). Antecedents comprise the stimuli, events, or conditions preceding and potentially triggering a behavior; the behavior constitutes the observable action itself; and consequences encompass the events following the behavior that influence its future probability (Cooper et al., 2020). Research indicates that the ABC model is effective in higher education for enhancing classroom participation, improving academic performance, and mitigating issues such as plagiarism and absenteeism (e.g., Sayeski & Brown, 2014). Many universities now use ABC-based strategies in academic coaching, faculty development programs, and student conduct systems (Losinski et al., 2014).

Our proposed helping behavior model is presented in figure 1.

FIGURE 1
PROPOSED HELPING BEHAVIOR MODEL



Antecedent Strategies

Antecedent strategies are central to Applied Behavior Analysis (ABA). They focus on modifying the environment before a behavior occurs to increase the likelihood of a desired response (Cooper et al., 2020). In business education, these strategies help set the stage for helping behavior by shaping the environment, rather than relying solely on consequences. This approach could be especially useful in competitive business school settings where prosocial behaviors can be unintentionally discouraged (Kilduff et al., 2016). By intentionally designing classroom environments, instructors can prompt helping as a natural and expected response to specific cues. Common antecedent strategies include structured collaborative tasks, peer modeling, and environmental cues. These approaches shape behavior by adjusting the triggers that lead to action.

Structured Collaborative Tasks

Collaborative tasks, when thoughtfully designed, can naturally prompt students to help one another. Unlike loosely defined group work, structured collaboration creates interdependence, making peer support necessary for success. A meta-analysis by Roseth et al. (2008) found that cooperative learning with clear structure led to significantly more helping behavior than unstructured group work. In business education, specifically, Yazici (2005) demonstrated that courses with structured collaborative components yielded higher levels of peer teaching compared to traditional lecture-based approaches. Unlike generic group assignments, structured collaborative tasks deliberately create interdependence and opportunities for helping through careful design (Johnson & Johnson, 2009). These tasks operate on the behavioral principle of establishing operations, temporarily increasing the value of help as a reinforcer and making helping responses more likely (Michael, 2000). By structuring tasks, instructors create a predictable environment that encourages positive interactions and cooperation among students, reducing the likelihood of problem behaviors (Pariska, 2022; Kern & Clemens, 2006). In business school contexts, structured collaborative tasks can be implemented through several evidence-based approaches:

- *Jigsaw Method Applications:* Faculty can design case analyses where each team member receives unique information essential to the complete solution, creating natural opportunities for knowledge sharing (Aronson & Patnoe, 2011). For example, in a strategic management

course, students might analyze different aspects of a company (financial metrics, competitive landscape, operational challenges) and rely on peers' analyses to develop comprehensive recommendations.

- *Complementary Skill Assignments:* Projects can require diverse skill sets that necessitate mutual assistance. In entrepreneurship courses, teams might include members with specialized roles in financial modeling, market research, product development, and pitch presentation, creating natural skill dependencies that encourage helping (Chen & Agrawal, 2018).
- *Process Accountability Structures:* Collaborative tasks can incorporate process accountability measures that specifically evaluate the contributions made to help. Peer evaluations might include metrics for knowledge sharing, assistance provided to teammates, and contributions to others' learning, making helping behavior explicitly valued within the assessment structure (Eddy et al., 2013).

Peer Modeling Protocols

Peer modeling uses students who exhibit desired behaviors as role models for their peers, which can powerfully promote positive behavior. This strategy leverages social learning principles, where students learn appropriate behaviors by observing and imitating peers, reinforcing desired behavior through social reinforcement. Peer modeling leverages observational learning principles to establish helping as a normal behavior within the educational environment. Building on Bandura's (1977) social learning theory, peer modeling protocols systematically expose students to examples of effective helping behavior, demonstrating both the process and outcomes of assistance. These models serve as discriminative stimuli, signaling the appropriateness and value of helping, while simultaneously reducing response effort by providing clear behavioral templates (Fryling et al., 2011; Cassano et al., 2023; Banks, 2014). In educational contexts, studies by Nixon and Pickering (2017) found that strategic environmental prompts increased helping behavior by 40% compared to control conditions. In workplace settings specifically, Holland et al. (2006) demonstrated that physical workspace modifications designed to increase interaction significantly enhanced knowledge-sharing behaviors among employees. Business schools can implement structured peer modeling through several approaches:

- *Tiered Mentoring Programs:* Establishing formal mentoring structures where advanced students support newer students creates visible models of helping behavior. These programs can include specific protocols for how mentors demonstrate support behaviors, creating consistent models across the program (Colvin & Ashman, 2010). MBA programs may connect second-year students with first-year students for specific course guidance, career advice, and social integration support.
- *Video Modeling Resources:* Developing instructional videos that demonstrate effective helping interactions in business contexts provides students with consistent examples to review repeatedly. These resources might showcase appropriate helping in team meetings, during problem-solving sessions, or in difficult conversations, focusing on both verbal and non-verbal components of effective assistance (LeBlanc et al., 2003).
- *Public Recognition Systems:* Creating visible acknowledgment for exemplary helping behavior amplifies the modeling effect by highlighting specific students as behavioral exemplars. Business schools might implement "collaboration awards" or public recognition for outstanding peer support, creating aspirational models within the community (Geller, 2002).

Environmental Cueing

Environmental cues are modifications in the classroom setting that signal or prompt students to engage in specific behaviors. Examples include visual schedules, countdowns, and foreshadowing (i.e. clear, advance cues to signal that a change or transition is about to occur), which help students anticipate and prepare for transitions, reducing anxiety and disruptive behavior (Cassano et al., 2022; Lopez, 2016). Business schools can implement environmental cueing through several approaches:

- *Physical Space Design:* Classrooms and study areas can be configured to facilitate helping interactions through modular furniture, collaborative technologies, and spatial arrangements that increase proximity and enable spontaneous assistance (Brooks, 2011). Business schools might create "collaboration zones" with shared workspaces, whiteboards, and technology that supports joint problem-solving.
- *Digital Platform Features:* Learning management systems and collaboration tools can incorporate help-request features, skill-sharing directories, and assistance-tracking mechanisms that make help opportunities visible and accessible (Martinez-Maldonado et al., 2019). For example, course platforms might include "help needed" flags that students can activate when struggling with specific problems or concepts.
- *Visual Prompts and Reminders:* The strategic placement of visual cues can remind students of available helping opportunities and expectations. Posters that promote helping norms, digital displays that highlight collaborative behavior, and team charters that stress mutual support all act as environmental cues that encourage students to help one another (Anderson et al., 2010).

Behavioral Shaping

Behavioral shaping involves building complex behaviors by gradually reinforcing small steps that lead toward a target behavior (Cooper et al., 2020). While antecedent strategies help set the stage for helping, shaping provides the method for developing those behaviors over time. In business education where interpersonal skills strongly influence career success and team dynamics, developing helping behavior requires deliberate development (Park et al., 2014). By using shaping techniques, business schools can guide students from basic helping instincts to polished professional behaviors that carry over into the workplace.

Task Analysis

Task analysis is a core ABA method that breaks down complex behaviors into smaller, teachable steps, providing a clear path for skill development (Cooper et al., 2020). When applied to helping behavior, it allows educators to turn what may seem like intuitive social actions into clear, structured learning goals (Miltenberger, 2016). This is especially useful in business education, where effective helping often requires nuanced judgment and context sensitivity, which students may not develop on their own (Cameron & Pierce, 2002). Business faculty can implement task analysis for helping behavior development through several structured approaches:

- *Helping Behavior Taxonomies:* Creating detailed breakdowns of different helping categories relevant to business contexts provides a foundation for targeted instruction. Faculty might develop taxonomies for knowledge-sharing behaviors, distinguishing between explaining concepts, demonstrating procedures, providing resources, and offering constructive feedback (Gagné, 1985). These taxonomies can include specific behavioral markers for each component skill.
- *Sequential Skill Chains:* Developing step-by-step protocols for common helping scenarios provides students with clear behavioral templates. For instance, a task analysis for effective peer coaching might include: (1) identifying the specific need, (2) asking clarifying questions, (3) providing targeted guidance, (4) checking for understanding, and (5) following up appropriately (Milne & Reiser, 2012). These skill chains make explicit the often implicit progression of effective helping interactions.
- *Component Skill Assessment:* Creating rubrics that evaluate discrete components of helping behavior enables precise feedback and targeted intervention. Business schools might develop assessment tools that separately evaluate the technical accuracy, communication clarity, interpersonal sensitivity, and follow-through aspects of helping encounters (Angelo & Cross, 1993).

Discrete Trial Training: Building Helping Skills Through Structured Practice

Discrete Trial Training (DTT) is a structured teaching methodology that breaks learning into distinct units consisting of a discriminative stimulus, response opportunity, consequence, and inter-trial interval (Cooper et al., 2020). This structured approach enables repeated practice with immediate feedback, thereby creating efficient learning conditions for mastering new skills (Smith, 2001). While originally designed for clinical settings, Discrete Trial Training (DTT) has been successfully adapted for mainstream education, especially for skills that require precision and clear discrimination (Leaf et al., 2016). Business educators can draw on DTT principles in several ways:

- *Simulation-Based Skill Building:* Short, structured scenarios that require specific helping responses let students practice targeted behaviors with immediate feedback. Faculty might use two-minute role-plays where students identify a peer's knowledge gap and offer appropriate help, followed by clear, structured feedback (Salas et al., 2009).
- *Progressive Complexity Training:* Helping scenarios can be arranged by difficulty, allowing students to build skills in stages. They might start with simple acts, such as explaining a basic concept, and then move on to more nuanced situations that involve emotional intelligence or competing demands (van Merriënboer et al., 2003).
- *Mixed-Skill Rotations: Rotating students through various helping roles enhanc*es behavioral flexibility. For example, students might take turns offering technical advice, emotional support, or resource-sharing during structured practice in various business scenarios (Smith & Graybiel, 2016).

Generalization Planning

Generalization planning addresses the challenge of helping students apply learned skills across various settings, people, and time periods (Stokes & Baer, 1977). From an ABA perspective, this means building in strategies that support transfer beyond the classroom (Cooper et al., 2020). In business education, this is especially important, as the ultimate goal is for students to consistently apply helping skills in diverse professional settings (Baldwin & Ford, 1988). Research supports the effectiveness of generalization-focused training. Programs that incorporated specific generalization strategies resulted in 24% higher skill transfer compared to those that didn't (Blume et al., 2010). In management education, Taylor & Riden (2021) found that focused generalization strategies significantly improved students' use of interpersonal skills on the job. Business faculty can promote skill transfer using several practical strategies:

- *Diverse Practice Contexts:* Offering helping opportunities across different courses and settings increases the chance that behaviors will carry over. For example, students might engage in peer support during finance classes, marketing projects, leadership exercises, and strategy simulations (Schmidt & Bjork, 1992).
- *Faded Support Structures:* Gradually reducing prompts and structured protocols helps students transition to independent use of helping skills. Instructors might begin with step-by-step helping scripts and move toward open-ended situations where students must decide when and how to assist (van Merriënboer et al., 2003).
- *Self-Management Training:* Teaching students to track and reflect on their helping behaviors builds long-term independence. Business programs might incorporate self-monitoring tools, personal goal setting, or reflection journals that support ongoing self-regulation (Cooper et al., 2020).

Consequential Modifications

In ABA, consequential modifications refer to reinforcement systems designed to maintain desired behaviors over time. In business education, these systems play a critical role in sustaining helping behaviors beyond initial training or shaping (Cooper et al., 2020). While shaping lays the foundation, reinforcement systems ensure that helping continues in real-world settings.

Social Reinforcement Systems

Social reinforcement relies on natural interpersonal rewards to keep behaviors going. In business school settings, where peer recognition, reciprocity, and reputation often replace formal incentives, these systems reflect how professional relationships actually work (Grant, 2013). Because they're integrated into everyday interactions, socially reinforced behaviors tend to persist even after structured interventions end (Miltenberger, 2016). Grant's (2013) research showed that simply making helping behavior more visible led to higher rates of prosocial action in organizational settings. Within an organizational setting, specifically, research by Black (2023) has shown that peer recognition systems increase collaboration and helping among employees. Business faculty can implement social reinforcement systems through several structured approaches:

- *Peer Recognition Protocols:* Establishing formal mechanisms for peer acknowledgment of helpful contributions creates sustainable social reinforcement. Business programs might implement structured peer feedback sessions where students specifically identify and acknowledge helpful behaviors demonstrated by classmates during team projects or case discussions (Johnson & Johnson, 2009). These acknowledgments can be verbalized publicly or documented through digital platforms that make recognition visible.
- *Reputation Management Systems:* Creating transparent systems that track helping reputations simulates professional environment dynamics. Programs might implement digital profiles where helping contributions are logged and visible to the learning community, similar to professional reputation systems in consulting firms or collaborative work environments (Grant & Rebele, 2017). These systems generate natural consequences for helping or withholding assistance.
- *Reciprocity Networks:* Establishing structured exchange networks reinforces helping through natural social contracts. Business schools may establish formalized "giving and receiving" structures, where students document instances of help received and provided, thereby creating visibility for reciprocal relationships that mirror professional networking dynamics (Baker & Dutton, 2007).

Token Economy Systems

Token economies provide systematic reinforcement through symbolic conditioned reinforcers that can be exchanged for backup reinforcers (Cooper et al., 2020). This approach enables precise, immediate reinforcement of target behaviors while delaying the actual delivery of terminal reinforcers. In professional education contexts, token systems bridge the gap between immediate classroom behaviors and delayed professional consequences, helping students develop behaviors that will eventually contact natural reinforcement in workplace settings (Hackenberg, 2009). Research confirms that token economies effectively maintain complex behaviors when properly designed. Studies by Tosti and Addison (2009) supported the idea that token systems linked to meaningful professional outcomes maintained targeted workplace behaviors with minimal response cost. In business education, specifically, research by Cameron and Pierce (2002) has shown that properly designed token reinforcement systems can significantly improve cooperation and helping behaviors without undermining intrinsic motivation. Business schools can implement token economies through several structured approaches:

- *Professional Development Points:* Establishing point systems linked to helping behaviors creates tangible reinforcement for prosocial actions. Programs might award points for various helping behaviors (like assisting peers with technical concepts, providing resource recommendations, offering constructive feedback) that can be exchanged for professional development opportunities like executive mentoring sessions, preferred internship placements, or specialized workshop access (Tosti & Addison, 2009).
- *Competency Credentialing:* Creating digital badges or credentials for demonstrated helping proficiencies provides token reinforcement with professional relevance. Business schools might establish badging systems for various helping domains (like "Peer Consulting

Excellence," "Knowledge Sharing Specialist") that students can earn through consistent helping behaviors and display on their professional profiles (Gamrat et al., 2014).

- *Leadership Point Systems:* Implementing points that contribute to leadership recognition effectively leverages students' motivations for professional advancement. Programs may establish systems where documented helping behaviors contribute to the selection of individuals for leadership positions within student organizations, case competition teams, or program ambassadorship roles (Kouzes & Posner, 2019).

Activity-Based Reinforcement

Activity-based reinforcement leverages the Premack Principle, using high-probability behaviors (preferred activities) to reinforce lower-probability behaviors (target helping actions) (Cooper et al., 2020). This approach capitalizes on students' existing motivations, creating natural reinforcement systems that can be gradually faded as helping behaviors become self-sustaining (Michael, 2004). Activity reinforcement is particularly valuable in business education because it mirrors professional environments where helping often leads to preferred task opportunities rather than explicit rewards. Research demonstrates that activity-based reinforcement effectively maintains complex behaviors. Michaelsen and Sweet (2011) contend that access to preferred learning activities significantly increased student engagement in prerequisite collaborative behaviors. In professional education specifically, research by Tosti and Addison (2009) showed that activity reinforcement systems maintained targeted professional behaviors at higher rates than verbal recognition alone. Business faculty can reinforce helping behaviors by linking them to meaningful activities that students value. Several structured approaches can make this connection both practical and motivating:

- *Project Role Allocation:* Assigning preferred roles in group projects as a reward for helping behavior ties reinforcement to natural classroom activities. For example, students who consistently support their peers might earn the chance to serve as team leader, client liaison, or presentation lead in future group work (Michaelsen & Sweet, 2011)
- *Case Selection Privileges:* Allowing students who demonstrate frequent helping behavior to choose case studies for analysis connects reinforcement to their personal and professional interests. Faculty might let students select topics aligned with their career goals, making the reward both relevant and engaging (Christensen et al., 2014).
- *Applied Learning Opportunities:* Linking helping behavior to high-value experiential learning strengthens motivation. For instance, students who regularly contribute to their peers' success may gain access to special opportunities, such as client-based consulting projects, advanced simulations, or industry site visits (Kolb & Kolb, 2005).

Progress Monitoring and Adjustment

A foundational strength of Applied Behavior Analysis (ABA) is its reliance on ongoing measurement and data-driven decision-making (Cooper et al., 2020). In business education, this translates into a need for systems that do more than introduce helping behaviors. They must continuously track progress and adjust interventions in response to student needs and shifting classroom dynamics. This final phase turns one-time interventions into responsive, evolving systems.

Automated Tracking: Capturing Helping Behavior at Scale

Automated tracking offers a low-effort, high-impact method for collecting continuous data on helping behavior. Unlike traditional observation, which requires significant staff time, automated systems utilize existing technology to gather detailed records without disrupting learning (Crowley-Koch & Van Houten, 2013). These tools are especially valuable in business programs, where helping often occurs informally, across projects and settings that are hard to monitor directly (Tincani & Travers, 2019). Business schools can apply automated tracking in several practical ways:

- *Digital Learning Integration:* Embedding behavior-tracking modules into learning platforms allows seamless data collection. For example, systems can log when students give peer feedback, share resources, or collaborate using integrated tools (Lerchenfeldt et al., 2019). These platforms generate time-stamped records that capture helping across courses and teams.
- *Mobile App Interfaces:* Creating dedicated apps allows students to log helping interactions in real-time. Students can utilize apps to document who they helped, how, and for how long with simple dropdown menus and minimal text input. Apps can also include location tags or gamified features to boost participation (Lane & Hays, 2008).
- *Collaboration Tool Analytics:* **S**chools can passively track helping behaviors through built-in analytics in existing platforms, such as Slack or Microsoft Teams. These tools can also be configured to utilize natural language processing in identifying patterns of knowledge sharing or support without requiring additional input from users (Yu, 2023).

Functional Analysis: Understanding the "Why" Behind Helping

Functional analysis is the process of identifying what environmental conditions influence a behavior. Rather than simply observing what helping looks like, it examines the reasons why students choose to help or not help in different contexts (Hanley et al., 2003). This is especially useful in educational settings where multiple factors shape complex social behavior (Miltenberger, 2016). Business faculty can apply functional analysis through structured methods:

- *Structured Environmental Manipulations:* By adjusting variables such as team structure, grading criteria, or recognition systems, instructors can observe how changes affect helping behavior. Comparing outcomes across different course sections or assignments can reveal which factors matter most (Paul & Jefferson, 2019).
- *Contingency Space Analysis:* This technique analyzes naturally occurring patterns between helping behaviors and their consequences. For instance, researchers might examine whether students who receive peer praise or better grades are more likely to help, revealing which outcomes reinforce the behavior (Black, 2023).
- *Delayed Helping Assessments:* Tracking helping behavior over time or across courses or semesters shows how well behaviors are maintained. This type of longitudinal analysis can pinpoint which aspects of an intervention contribute to the development of long-term prosocial habits (Cooper et al., 2020).

Treatment Fidelity: Ensuring Intervention Integrity

Treatment fidelity refers to how closely an intervention is implemented as planned. In complex academic settings, where multiple instructors and staff members may deliver different parts of a program, maintaining consistency is essential (Gresham et al., 2000). Without it, interventions may appear ineffective simply because they weren't applied as designed (Sanetti & Kratochwill, 2009). Researchers have found that fidelity tracking improves results. One study showed that interventions monitored for fidelity had nearly twice the impact of those without oversight (Sanetti & Kratochwill, 2009). Another found that resolving implementation gaps increased effectiveness by 34 percent (Lane & Beebe-Frankenberger, 2004). Business schools can support fidelity through the following approaches:

- *Implementation Checklists:* Creating clear, standardized checklists for each intervention step, such as how feedback is delivered or how helping opportunities are introduced, helps faculty stay consistent across classes and terms (Gresham et al., 2000).
- *Faculty Coaching and Observation:* Peer observation allows instructors to support one another through feedback and shared strategies. Structured protocols make the process practical and foster a collaborative culture of improvement (Sanetti & Kratochwill, 2009). This is bound to create a critical mass of instructors committed to building a curriculum that is intentionally designed to foster these helping behaviors among students within a college.

- *Student Feedback Tools:* Short surveys or reflection prompts let students report whether they experienced key elements of the intervention. For example, asking whether they received specific feedback on their helping behavior creates a second layer of accountability and reveals any disconnects between plan and practice (Lane & Beebe-Frankenberger, 2004).

CONCLUSION

This paper examines the applicability of ABA principles in promoting helping behaviors among students in a College of Business setting. Building on the ABC model, the authors present a four-stage model forming the proposed framework for building helping behaviors. The four include antecedent strategies, behavioral shaping, consequential modifications and finally progress monitoring and adjustment. Given the competitive nature of many students and the emphasis on technical achievement in these colleges, it is theorized that the application of this proposed framework may foster the development of helping behavior among students. This research is especially timely given that organizations are increasingly emphasizing emotional intelligence, teamwork, and social responsibility as core competencies among their employees (AACSB, 2024). It is essential to note that although we present the components in our model separately, efforts should be made toward coordinated implementation. For example, the three antecedent strategies (i.e., structured tasks, peer modeling, and environmental cueing) should be implemented as a coordinated system rather than isolated interventions. Structured tasks might incorporate modeling components, while environmental cues reinforce the helping behaviors demonstrated through models (Cooper et al., 2020). It should also be noted that, while the focus of this study has been on a college business setting, the principles presented here should be equally effective when applied by educators in other college settings.

REFERENCES

Bodenhausen, AACSB International. (2024, January). Core competencies leaders need in a complex world. *AACSB Insights*. Retrieved from https://www.aacsb.edu/insights/articles/2024/01/core-competencies-leaders-need-in-a-complex-world

Abernathy, W.B., & Lattal, D. (2014). Organizational behavior management. *The Wiley Blackwell Handbook of Operant and Classical Conditioning*, pp. 645–668.

Anderson, D.H., Fisher, A., & Marchant, M. (2010). Increasing positive behavior support in classrooms: A meta-analysis of the PBS literature. *Research on Social Work Practice*, *20*(2), 180–189.

Angelo, T.A., & Cross, K.P. (1993). Minute paper. *Classroom assessment techniques: A handbook for college teachers*, *2*, 148–153.

Aronson, E., & Patnoe, S. (2011). *Cooperation in the classroom: The jigsaw method*. Pinter & Martin Ltd.

Baker, W., & Dutton, J.E. (2017). Enabling positive social capital in organizations. In *Exploring positive relationships at work* (pp. 325–346). Psychology Press.

Bakker, A.B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of occupational health psychology*, *22*(3), 273.

Baldwin, T.T., & Ford, J.K. (1988). Transfer of training: A review and directions for future research. *Personnel Psychology*, *41*(1), 63–105.

Bandura, A. (1977). *Social learning theory.* Prentice Hall.

Banks, T. (2014). Creating positive learning environments: Antecedent strategies for managing the classroom environment & student behavior. *Creative Education*.

Black, P.W. (2023). The effect of peer-to-peer recognition systems on helping behavior: The influence of rewards and group affiliation. *Accounting, Organizations and Society*, *109*, 101454.

Blau, P.M. (1964). Justice in social exchange. *Sociological Inquiry*, *34*(2).

Blume, B.D., Ford, J.K., Baldwin, T.T., & Huang, J.L. (2010). Transfer of training: A meta-analytic review. *Journal of Management*, *36*(4), 1065–1105.

Brooks, D.C. (2011). Space matters: The impact of formal learning environments on student learning. *British Journal of Educational Technology*, *42*(5), 719–726.
Cameron, J., & Pierce, W.D. (1994). Reinforcement, reward, and intrinsic motivation: A meta-analysis. *Review of Educational Research*, *64*(3), 363–423.
Cameron, J., & Pierce, W.D. (2002). *Rewards and intrinsic motivation: Resolving the controversy*. Bloomsbury Publishing USA.
Cassano, M.J., Bruski, H., & Bendekovits, S. (2023). Antecedent Interventions: Proactive Strategies for Changing Behavior. In *Incorporating Applied Behavior Analysis into the General Education Classroom* (pp. 37–49). Cham: Springer International Publishing.
Choi, J.N. (2009). Collective dynamics of citizenship behaviour: What group characteristics promote group-level helping? *Journal of Management Studies*, *46*(8), 1396–1420.
Cialdini, R.B., & Goldstein, N.J. (2004). Social influence: Compliance and conformity. *Annual Review of Psychology*, *55*(1), 591–621.
Chen, X.P., & Agrawal, S. (2018). Implementing cooperative learning in management education. *Academy of Management Learning & Education*, *17*(4), 381–595.
Chi, M.T., Siler, S.A., Jeong, H., Yamauchi, T., & Hausmann, R.G. (2001). Learning from human tutoring. *Cognitive Science*, *25*(4), 471–533.
Chiaburu, D.S., & Harrison, D.A. (2008). Do peers make the place? Conceptual synthesis and meta-analysis of coworker effects on perceptions, attitudes, OCBs, and performance. *Journal of Applied Psychology*, *93*(5), 1082.
Christensen, R., Knezek, G., Tyler-Wood, T., & Gibson, D. (2014). Longitudinal analysis of cognitive constructs fostered by STEM activities for middle school students. *Knowledge Management & E-Learning*, *6*(2), 103.
Colbeck Crisp, G., & Cruz, I. (2009). Mentoring college students: A critical review of the literature between 1990 and 2007. *Research in Higher Education*, *50*(6), 525–545.
Colvin, J.W., & Ashman, M. (2010). Roles, risks, and benefits of peer mentoring relationships in higher education. *Mentoring & Tutoring: Partnership in Learning*, *18*(2), 121–134.
Cooper, J.O., Heron, T.E., & Heward, W.L. (2020). *Applied behavior analysis* (3rd ed.). Pearson.
Cropanzano, R., & Mitchell, M.S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, *31*(6), 874–900.
Cross, R., & Parker, A. (2004). *The hidden power of social networks: Understanding how work really gets done in organizations*. Harvard Business School Press.
Crowley-Koch, B.J., & Van Houten, R. (2013). Automated measurement in applied behavior analysis: A review. *Behavioral Interventions*, *28*(3), 225–240.
Debbie, H.L., Mehrdokht, P., & Sa, L.J. (2022). Responsible Management Education as Socialization: Business Students' Values, Attitudes and Intentions. *Journal of Business Ethics*, *176*(1), 17–35.
Eddy, E.R., D'Abate, C.P., & Tannenbaum, S.I. (2013). Characteristics of effective mentoring relationships: Partner perspective. *The Journal of Business and Psychology*, *28*(3), 351–366.
Foxall, G.R. (2017). Behavioral economics in consumer behavior analysis. *The Behavior Analyst*, *40*, 309–313.
Fryling, M.J., Johnston, C., & Hayes, L.J. (2011). Understanding observational learning: An interbehavioral approach. *The Analysis of Verbal Behavior*, *27*(1), 191–203.
Gamrat, C., Zimmerman, H.T., Dudek, J., & Peck, K. (2014). Personalized workplace learning: An exploratory study on digital badging within a teacher professional development program. *British Journal of Educational Technology*, *45*(6), 1136–1148.
Gegen, R.M. (1985). *The conditions of learning and theory of instruction* (4th ed.). New York, NY: Holt, Rinehart & Winston
Geller, E.S. (2002). *The participation factor: How to increase involvement in occupational safety*. American Society of Safety Engineers.

Goomas, D.T. (2010). Replacing voice input with technology that provided immediate visual and audio feedback to reduce employee errors. *Journal of Organizational Behavior Management*, *30*(1), 26–37.
Grant, A. (2013). *Give and take: A revolutionary approach to success*. Penguin.
Grant, A.M., & Dutton, J.E. (2012). Beneficiary or benefactor: The effects of reflecting about receiving versus giving on prosocial behavior. *Psychological Science*, *23*(9), 1033–1039.
Grant, A., & Rebele, R. (2017). Beat generosity burnout. *Harvard Business Review*, pp. 2–24.
Gresham, F.M., Lane, K.L., MacMillan, D.L., Bocian, K.M., & Ward, S.L. (2000). Effects of positive and negative illusory biases: Comparisons across social and academic self-concept domains. *Journal of School Psychology*, *38*(2), 151–175.
Guidry, K. (2017). Delivery versus Time Devoted to Assignments: The Effect on Course Performance. *Journal of Instructional Pedagogies*, *19*.
Hackenberg, T.D. (2009). Token reinforcement: A review and analysis. *Journal of the Experimental Analysis of Behavior*, *91*(2), 257–286.
Hanley, G.P., Iwata, B.A., & McCord, B.E. (2003). Functional analysis of problem behavior: A review. *Journal of Applied Behavior Analysis*, *36*(2), 147–185.
Heward, W.L., Critchfield, T.S., Reed, D.D., Detrich, R., & Kimball, J.W. (2022). ABA from A to Z: Behavior science applied to 350 domains of socially significant behavior. *Perspectives on Behavior Science*, *45*(2), 327–359.
Holland, J.H., Holyoak, K.J., Nisbett, R.E., & Thagard, P.R. (2006). *Induction: Processes of inference, learning, and discovery*. MIT Press.
Hui, B.P., Ng, J.C., Berzaghi, E., Cunningham-Amos, L.A., & Kogan, A. (2020). Rewards of kindness? A meta-analysis of the link between prosociality and well-being. *Psychological Bulletin*, *146*(12), 1084.
Johnson, M.D., & Fawcett, S.B. (1994). Courteous service: Its assessment and modification in a human service organization. *Journal of Applied Behavior Analysis*, *27*(1), 145–152.
Johnson, D.W., & Johnson, R.T. (2009). An educational psychology success story: Social interdependence theory and cooperative learning. *Educational Researcher*, *38*(5), 365–379.
Kelley, D.P., Wilder, D.A., Carr, J.E., Rey, C., Green, N., & Lipschultz, J. (2015). Research productivity among practitioners in behavior analysis: Recommendations from the prolific. *Behavior Analysis in Practice*, *8*, 201–206.
Kern, L., & Clemens, N.H. (2007). Antecedent strategies to promote appropriate classroom behavior. *Psychology in the Schools*, *44*(1), 65–75.
Kilduff, G.J., Galinsky, A.D., Gallo, E., & Reade, J.J. (2016). Whatever it takes to win: Rivalry increases unethical behavior. *Academy of Management Journal*, *59*(5), 1508–1534.
Kolb, A.Y., & Kolb, D.A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education*, *4*(2), 193–212.
Kouzes, T.K., & Posner, B.Z. (2019). Influence of managers' mindset on leadership behavior. *Leadership & Organization Development Journal*, *40*(8), 829–844.
Kuh, G.D., Kinzie, J., Schuh, J.H., & Whitt, E.J. (2010). *Student success in college: Creating conditions that matter*. John Wiley & Sons.
Lane, H.C., & Hays, M.J. (2008). Getting down to business: Teaching cross-cultural social interaction skills in a serious game. In *Workshop on Culturally Aware Tutoring Systems (CATS)* (pp. 35–46).
Lane, K.L., & Beebe-Frankenberger, M. (2004). *School-based interventions: The tools you need to succeed* (pp. 85–127). Pearson/A and B.
Leaf, J.B., Leaf, R., McEachin, J., Taubman, M., Ala'i-Rosales, S., Ross, R.K., . . . Weiss, M.J. (2016). Applied behavior analysis is a science and, therefore, progressive. *Journal of Autism and Developmental Disorders*, *46*, 720–731.
LeBlanc, L.A., Coates, A.M., Daneshvar, S., Charlop-Christy, M.H., Morris, C., & Lancaster, B.M. (2003). Using video modeling and reinforcement to teach perspective-taking skills to children with autism. *Journal of Applied Behavior Analysis*, *36*(2), 253–257.

LePine, J.A., & Van Dyne, L. (1998). Predicting voice behavior in work groups. *Journal of Applied Psychology*, *83*(6), 853.
Lerchenfeldt, S., Mi, M., & Eng, M. (2019). The utilization of peer feedback during collaborative learning in undergraduate medical education: A systematic review. *BMC Medical Education*, *19*, 1–10.
Linnenbrink-Garcia, L. (2014). *International handbook of emotions in education*. Routledge.
Lopez, B. (2017). *Antecedent-based interventions for restricted repetitive behaviors in school-aged children diagnosed with autism spectrum disorder* [Honors thesis, University of North Carolina at Chapel Hill]. Carolina Digital Repository
Losinski, M., Katsiyannis, A., Ryan, J., & Baughan, C. (2014). Weapons in schools and zero-tolerance policies. *NASSP Bulletin*, *98*(2), 126–141.
Marathe, G.M., Dutta, T., & Kundu, S. (2020). Is management education preparing future leaders for sustainable business? Opening minds but not hearts. *International Journal of Sustainability in Higher Education*, *21*(2), 372–392.
Martinez-Maldonado, R., Goodyear, P., Carvalho, L., Thompson, K., Hernandez-Leo, D., Dimitriadis, Y., . . . Wardak, D. (2019). Supporting collaborative design activity in a multi-user digital design ecology. *Computers in Human Behavior*, *71*, 327–342.
Michael, J. (2000). Implications and refinements of the establishing operation concept. *Journal of Applied Behavior Analysis*, *33*(4), 401–410.
Michael, J.L. (2004). *Concepts and principles of behavior analysis*. Western Michigan University, Association for Behavior Analysis International.
Michaelsen, L.K., & Sweet, M. (2011). Team-based learning. *New Directions for Teaching and Learning*, *128*(128), 41–51.
Miltenberger, R.G. (2016). *Behavior modification: Principles and procedures.* Cengage Learning.
Milne, D., & Reiser, R.P. (2012). A rationale for evidence-based clinical supervision. *Journal of Contemporary Psychotherapy*, *42*, 139–149.
Organ, D.W. (2018). Organizational citizenship behavior: Recent trends and developments. *Annual Review of Organizational Psychology and Organizational Behavior*, *5*(1), 295–306.
Pariska, N.G. (2022). The employment of antecedent strategy for managing behavior challenges in EFL classroom. *Indonesian Journal of Educational Research and Review*, *5*(1), 25–33.
Park, H.S.L., & Lynch, S.A. (2014). Evidence-based practices for addressing classroom behavior problems. *Young Exceptional Children*, *17*(3), 33–47.
Paul, J., & Jefferson, F. (2019). A comparative analysis of student performance in an online vs. face-to-face environmental science course from 2009 to 2016. *Frontiers in Computer Science*, *1*, 7.
Podsakoff, P.M., MacKenzie, S.B., Paine, J.B., & Bachrach, D.G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, *26*(3), 513–563.
Post, S.G. (2005). Altruism, happiness, and health: It's good to be good. *International Journal of Behavioral Medicine*, *12*(2), 66–77.
Quintans-Júnior, L.J., Correia, D., & Martins-Filho, P.R. (2023). The rising significance of soft skills in postgraduate education: Nurturing well-rounded professionals for the modern world. *Revista da Sociedade Brasileira de Medicina Tropical*, *56*, e0245–2023.
Rice, A., Austin, J., & Gravina, N. (2009). Increasing customer service behaviors using manager-delivered task clarification and social praise. *Journal of Applied Behavior Analysis*, *42*(3), 665-669.
Roscoe, R.D., & Chi, M.T. (2007). Understanding tutor learning: Knowledge-building and knowledge-telling in peer tutors' explanations and questions. *Review of Educational Research*, *77*(4), 534–574.
Roseth, C.J., Johnson, D.W., & Johnson, R.T. (2008). Promoting early adolescents' achievement and peer relationships: The effects of cooperative, competitive, and individualistic goal structures. *Psychological Bulletin*, *134*(2), 223–246

Salas, E., Wildman, J.L., & Piccolo, R.F. (2009). Using simulation-based training to enhance management education. *Academy of Management Learning & Education*, *8*(4), 559–573.
Sanetti, L.M.H., & Kratochwill, T.R. (2009). Treatment integrity assessment in the schools: An evaluation of the Treatment Integrity Planning Protocol. *School Psychology Quarterly*, *24*(1), 24.
Sayeski, K.L., & Brown, M.R. (2014). Developing a classroom management plan using a tiered approach. *Teaching Exceptional Children*, *47*(2), 119–127.
Schmidt, R.A., & Bjork, R.A. (1992). New conceptualizations of practice: Common principles in three paradigms suggest new concepts for training. *Psychological science*, *3*(4), 207–218.
Skinner, B.F. (1965). *Science and human behavior*. The Macmillan Company, New York.
Smith, E.A. (2001). The role of tacit and explicit knowledge in the workplace. *Journal of knowledge Management*, *5*(4), 311–321.
Smith, K.S., & Graybiel, A.M. (2016). Habit formation coincides with shifts in reinforcement representations in the sensorimotor striatum. *Journal of Neurophysiology*, *115*(3), 1487–1498.
Stokes, T.F., & Baer, D.M. (1977). An implicit technology of generalization 1. *Journal of Applied Behavior Analysis*, *10*(2), 349–367.
Taylor, J.C., & Riden, B.S. (2021). Practice strategies and considerations to promote maintenance and generalization. *Beyond Behavior*, *30*(2), 72–84.
Thoits, P.A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior*, *52*(2), 145–161.
Tincani, M., & Travers, J. (2019). Replication research, publication bias, and applied behavior analysis. *Perspectives on Behavior Science*, *42*(1), 59–75.
Tinto, V. (2006). Research and practice of student retention: What next? *Journal of College Student Retention: Research, Theory & Practice*, *8*(1), 1–19.
Tosti, D.T., & Addison, R.M. (2009). 360-degree feedback: Going around in circles? *Performance Improvement*, *48*(3), 36–39.
Van Merriënboer, J.J., Kirschner, P.A., & Kester, L. (2003). Taking the load off a learner's mind: Instructional design for complex learning. *Educational Psychologist*, *38*(1), 5–13.
Walton, G.M., & Cohen, G.L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science*, *331*(6023), 1447–1451.
Webb, N.M. (2008). Learning in small groups. In T.L. Good (Ed.), *21st century education: A reference handbook* (pp. 203–211). Sage Publications.
Wells, V.K., & Hantula, D.A. (2014). Introduction: The Analysis of Consumer Behavior. In *Consumer Behavior Analysis* (pp. 1–10). Routledge.
Wisniewski, B., Zierer, K., & Hattie, J. (2020). The power of feedback revisited: A meta-analysis of educational feedback research. *Frontiers in Psychology*, *10*, 487662.
Yazici, H.J. (2005). A study of collaborative learning style and team learning performance. *Education + Training*, *47*(3), 216–229.
Yu, W. (2023). *Knowledge augmented methods for natural language processing and beyond* (Order No. 30572688). Available from ProQuest Dissertations & Theses Global. (2854991371). Retrieved from https://libproxy.uco.edu/login?url=https://www.proquest.com/dissertations-theses/knowledge-augmented-methods-natural-language/docview/2854991371/se-2
Zaki, J., & Williams, W.C. (2013). Interpersonal emotion regulation. *Emotion*, *13*(5), 803–810.
Zhao, C.M., & Kuh, G.D. (2004). Adding value: Learning communities and student engagement. *Research in Higher Education*, *45*(2), 115–138.