
Archetypes of heeding instructions among students engaged in virtual teams of online MBA classes: preliminary evidence of socioemotional learning

Higher Education,
Skills and Work-
Based Learning

Received 10 December 2025
Revised 4 February 2026
22 April 2026
Accepted 22 April 2026

Hemant Sashittal

*Department of Management and Marketing, St John Fisher University, Rochester,
New York, USA*

Avan R. Jassawalla

Department of Management, SUNY Geneseo, Geneseo, New York, USA, and

Maria Carolina Saffie Robertson

*Department of Management and Marketing, St John Fisher University, Rochester,
New York, USA*

Abstract

Purpose – The article reports findings produced by a study that examined the heeding of instructions provided to students engaged in virtual teams of online MBA classes. The purpose was to identify archetypes of heeding instructions and test whether they are significantly linked to the activation of socioemotional abilities.

Design/methodology/approach – In two MBA classes, students received instructions for working with others in virtual teams and prompts to aid reflection on activated socioemotional abilities. The final reports submitted by students were content analyzed; the resulting classifications were used to identify archetypes of heeding instructions and test hypothesized relationships.

Findings – Three archetypes of heeding instructions were identified. Testing suggests that a significant multivariate association exists between archetypes of heeding instructions and activation of socioemotional abilities among students.

Originality/value – The article is one of the first to report a study devoted to instruction-heeding, and the socioemotional abilities activated by the archetypes of instruction-heeding.

Keywords Gen Z, Gen X, Millennials, Virtual teams, Online MBA programs, Heeding instruction, MANOVA, Canonical correlation

Paper type Research article

Introduction

Current scholarship devoted to business education agrees that MBA students must participate in team-based learning to prepare for the realities of workplaces (see [Ginting et al., 2020](#)). Instructors and program administrators of MBA programs are advised that their curricula and instruction must: (1) prepare students for collaborating effectively with others in workplace teams (e.g. [Hill and Peuker, 2024](#)), and (2) help students develop necessary socioemotional abilities associated with effective teamwork (e.g. [Gnecco et al., 2024](#)). A rich body of literature speaks to educators interested in crafting instructions and providing them to students they assign to teams in their classes (e.g. [Hunsaker et al., 2011](#)). In recent years, scholarship has extended to explaining how virtual teams function (see [Hincapie and Hill, 2024](#); [Maslikowska and Gibbert, 2023](#)) and how they must be guided ([Gardner et al., 2024](#)). This scholarship is vital to a growing audience; at present, 45,000 students are enrolled in online MBA programs



Higher Education, Skills and Work-
Based Learning
© Emerald Publishing Limited
e-ISSN: 2042-390X
p-ISSN: 2042-3896
DOI 10.1108/HESWBL-12-2025-0555

Funding details: No funding was received for the research associated with this article.

Disclosure statement: The authors have no competing interests to declare.

in the United States alone (Byrne, 2022). Online programs are also proliferating globally; half of the top-ranked online MBA programs are now offered in Europe and India (Anonymous, 2025; Wise, 2026).

The gap in current literature relates to a surfeit of discussions devoted to crafting instructions coupled with the near total silence when it comes to explaining: (1) when instructed and prompted, do students enrolled in online MBA programs and engaged in virtual teams, heed such instructions and respond to prompts? (2) Is heeding of instructions a unidimensional construct that ranges from low to high heeding, or is it multidimensional with archetypes of heeding? (3) If multiple archetypes exist, to what extent and in what ways do they activate socioemotional abilities among students? Current literature offers no basis for drawing theory-based hypotheses; practical approaches for investigating are clearly implicated.

This article reports three findings new to business-pedagogy literature that emerged from an initiating study of instruction-heeding among students enrolled in an online MBA program and participating in virtual teams. First, despite the provision of instruction, the study finds that the extent of heeding is uniformly low; no instruction about teamwork is followed by all students. Second, the pattern of instruction-heeding varies across students; three archetypes of instruction-heeding are identified by the study. Third, preliminary multivariate analysis suggests that each archetype uniquely activates a set of socioemotional abilities among students. The literature is currently uninformed about instruction-heeding archetypes or their relationship with socioemotional abilities. These findings are preliminary; they aim to stimulate new thinking and trigger new research into previously untested notions about instructions for teamwork. Developing generalizable findings based on a large random sample of students and deriving a formalized theory is left to future efforts.

Theoretical background

The problem in practice

Our interest in instruction-heeding emerges from a wide discussion of a practical problem, i.e. students, scholars and employers are dissatisfied with the teamwork occurring in business school classrooms (Wyld, 2021). Generation Z applicants to business programs are anxious about graduating without acquiring relevant soft skills, particularly those related to teamwork (Schlee *et al.*, 2020). MBA students groan, if not entirely avoid, classes that require teamwork (Wyld, 2021). Scholars criticize business educational programs for graduating students unready for working in modern organizations (Bennis and O'Toole, 2005; Pfeffer and Fong, 2002). Employers complain that business school graduates reflect surface-level learning about teamwork (Biggs, 1999), show poorly developed teamwork skills (Tonks, 2002) and poorly developed socioemotional abilities (Hogan and Young, 2020; Ginting *et al.*, 2020; Majid *et al.*, 2019; Petkova *et al.*, 2021). Most alarming are the reports that the under-preparation is triggering reluctance among managers when it comes to hiring Gen Z applicants (Elting, 2024). This problem is surprising given the surfeit of literature available for crafting instruction to aid classroom teamwork (Petkova *et al.*, 2021).

Pedagogical literature and guiding hypotheses

We initially aimed to construct a literature-derived conceptual framework, develop theory-derived hypotheses to understand instruction-heeding. This effort yielded no significant results. Pedagogical literature is silent when it comes to explaining the nature and extent of teamwork-related instruction-heeding occurring in practice. First, we examined how self-regulated learning occurs in classrooms (SRL; see David *et al.*, 2024; Yun *et al.*, 2025). Zimmerman's self-regulation model highlights three stages in the process, i.e. forethought, performance and self-reflection (see Zimmerman, 2000, pp. 13–39). Scholars speak to: (1) students' learning strategies – because not all can successfully self-regulate their learning

(Biber *et al.*, 2020; Rea *et al.*, 2022), (2) study habits to identify the likely shortfall in self-regulation (e.g. David *et al.*, 2024; Morse, 2008). Concerns about shortfalls in self-regulated learning are unspecific to following of instruction (see Foerst *et al.*, 2017; Dirx *et al.*, 2019). An extensive review of self-regulation literature (Panadero, 2017) identifies tools students can use to improve self-regulation (Verplanken and Orbell's (2003), Faza and Lestari, 2025; see Verplanken and Orbell's (2003) self-report habit index, also see Dresel *et al.*, 2015; Zimmerman, 1986). This stream of literature is silent about students' self-regulation occurring in virtual teams (Shi *et al.*, 2025), presents mostly conceptual discussions and not empirically derived findings, and is entirely silent about issues of instruction-heeding.

Second, inordinate attention is devoted to understanding student engagement and involvement – because it is deemed essential for learning (Korhonen, 2021; Pascarella and Terenzini, 1991; Tinto, 1993). Scholars call for careful attention to the social environment in which collaborative learning can occur, and suggest students invest time and energy in curricular and extra-curricular experiences (Astin, 1984). Third, much of the thinking devoted to transformative learning theory (e.g. Mezirow, 2006) is also conceptual and advocacy-oriented and says little about students' responsiveness to instructions for transformation (see Jassawalla *et al.* (2026) for a notable exception). Neither streams of literature speak to issues of instruction-heeding.

Some thinking in the literature can produce plausible explanations for *why* students may heed instruction in ways they do. In so doing, these discussions can help identify plausible antecedents of instruction-heeding, i.e. a concern peripheral to our study. First, for instance, the literature devoted to self-determination theory (Deci and Ryan, 2000) suggests that a student's perceived autonomy, competence, and rewards might shape instruction-heeding (Deci and Ryan, 2012, 2013; Gagne and Deci, 2005). Second, Vygotsky's (1978) social constructivism theory suggests that the social, cognitive and emotional environment in which students are embedded may explain how and why they heed instructions in the ways they do (see Schreiber and Valle (2013) for scholarly and McLeod (2025) for simplified discussion). Third, the emerging literature on cybergogy calls for an appreciation of students' learning from peers and from self-directed learning in virtual environments (e.g. Muhammad and Malik, 2023; Turner and Ibiwani, 2023). In other words, while some discussions can speak to plausible antecedents, there are no reports about the extent of instruction-heeding by students working virtually with others in online MBA programs.

The hypotheses guiding our study emerged from the following literature-derived inference. When instruction-heeding is mentioned at all in the literature, it is not rooted in extant theoretical traditions with developed ontologies and philosophical methodologies; instead it is a recognition that instruction-heeding is important for student learning (Matthews *et al.*, 2012), for functioning in organizations (Dadiyal and Gosavi, 2018; Liu *et al.*, 2021) and for human development (Pierce, 2021). For instance, the variance in instruction-heeding explains why some children play better with others (Pierce, 2021). Some people heed instructions better than others; hence, they are better able to expand their personal capacity and contribute to the intellectual capital of the firm (Naqvi and Lodhi, 2019). Much of the interest is limited to contexts in which scholars are testing whether K-12 students, who speak one language and receive instruction in another, heed instructions (Herzog-Punzenberger *et al.*, 2020). On the basis of the literature review, we initially developed a list of nine instructions for students and made them available to students during the initial week of class once they were assigned to teams (see Table 1 for instructions). Students were also asked to present evidence of the instructions they followed and the learning they derived from heeding in their final reports. To test the notion “if we instruct, they will heed,” test whether different students heed instructions differently, and identify archetypes of instruction-heeding, we hypothesized:

H1. Multiple archetypes of heeding instructions exist.

The second hypothesis guiding the study was inspired by scholarship that speaks to the vitality of activating socioemotional abilities among members of student teams. In other words,

Table 1. Instructions and prompts

<i>Instructions and Prompts</i>	<i>Purpose</i>
1. <i>Charter creation.</i> Explain your contribution to the creation of the team's charter	Purpose: Charters can 'link team efforts to the achievement of quality objectives,' (Norton and Sussman, 2016, p. 33; McDowell et al., 2011; Hunsaker et al., 2011)
2. <i>Charter's influence.</i> Explain the ways in which the team's charter was influential in shaping the learning that occurred in the team	
3. <i>Behavioral change.</i> Explain the nature and extent of behavioral change that occurred in team and in self, because of teamwork	Purpose: Indicator of team learning (Aaron et al., 2014; Pinheiro et al., 2023; Tran and Herzig, 2024)
4. <i>Responsiveness to feedback.</i> Explain how self and others responded to feedback from others in the team	Purpose: Key team processes (feedback provision, reception, usefulness) of team interactions, central to team learning (Bauer et al., 2025; Jassawalla et al., 2010)
5. <i>Usefulness of feedback.</i> Explain the usefulness of feedback for new learning	
6. <i>New knowledge from project.</i> Explain the nature and extent of new knowledge of subject matter gained from the project	Purpose: Indicator of usefulness of participation in project (Larsen, 2025)
7. <i>New knowledge from assigned readings.</i> Explain the nature and extent of knowledge derived from assigned readings	Purpose: Indicator of interest in expanding one's knowledge based on the knowledge of others (and usefulness of assigned reading; see Iordaneou and Kuhn, 2025)
8. <i>New knowledge from class only.</i> Explain the nature and extent of new knowledge you derived from the class (as separate from the one derived from team and peers)	Purpose: Indicator of interest in and usefulness of the class (Hammond et al., 2019)
9. <i>New knowledge derived from peers.</i> Explain the nature and extent of knowledge derived from peers in the team	Purpose: Indicator of interest in interactions with others in the team. Peer-to-peer interactions improves student performance (Goleman et al., 2013)
Source(s): Authors' own work	

instructing students to work more effectively in virtual teams must be evaluated on the basis of soft-skills, emotional intelligence and socioemotional abilities they activate (e.g. Howell et al., 2025). An important contribution to better assessment of soft skills and emotional intelligence has clearly occurred (e.g. Rapisarda, 2002). However, business pedagogy literature has entirely neglected to test the complex linkages between instruction-heeding and socioemotional abilities activated among students. Hence, we crafted three prompts for self-reflection and required students to discuss the effect of heeding instruction in the activation of their socioemotional abilities (see Table 2). The reliance on prompted reflection to produce socioemotional abilities is strongly supported in the literature (Schurmann et al., 2025). Prompted reflection is known to improve student motivation (Cavilla, 2017) and academic performance (Radovic et al., 2023).

Briefly, the prompts were designed to help students reflect on three distinct socioemotional abilities activated by participation in virtual teamwork. First, students received prompts for thinking about other members in the team to test whether it would activate empathy, a critical component of emotional self-control (Boyatzis et al., 2017) vital for collaborative teamwork (Smith et al., 2014). Empathy is known to make an outsized difference to the collaborative interactions that occur with others (see Friess and Lam (2020) for an extensive discussion of the linkage). Second, students received prompts to reflect on their own learning as part of virtual teams; responses were expected to shed light on the activation of self-confidence upon engagement with others. Goleman's (2004) work on emotional intelligence speaks to self-confidence as a part of self-awareness; it shapes the ability to align one's strengths and seek help and assistance from others. Self-confidence is a state of mind, a final report can signal students' dedication to tasks, the energy, vigor and enthusiasm for learning, and the capacity to

Table 2. Prompts for reflection

Prompts for reflection about socioemotional abilities activated during teamwork	Indicators of activated socioemotional abilities
1. <i>Interactions with team members.</i> Explain the nature of understanding about others in the team that resulted from participation in the virtual team	Purpose: Indicates activation of empathy as a socioemotional ability Does the student present evidence that they are “sensing the feelings and perspective of others, takes an active interest in their concerns” (Rapisarda, 2002, p. 365; also see Boyatzis et al., 2017)
2. <i>Perspective into self.</i> Explain the nature of understanding about self as a member of the virtual team	Purpose: Indicates activation of self-confidence as a socioemotional ability Does the student possess a “sense of self-worth and capabilities” (Rapisarda, 2002, p. 365; also see Carraher-Wolverton et al., 2025)
3. <i>Interactions with others in the classroom.</i> Explain the nature of understanding about others in the class that resulted from participation in the team	Purpose: Indicates activation of social skills as a socioemotional ability “Does the student reflect capacity to build nurturing, instrumental relationships” with others (Rapisarda, 2002, p. 365)

Source(s): Authors’ own work

absorb diverse sources of information (based on Carraher-Wolverton et al., 2025). Finally, students received prompts for reflecting on the emergence of new social skills as a result of participating in the virtual team. Social skills are inseparable from emotional intelligence and effective teamwork, and intrinsic to the capacity for interacting with and persuading others (Goleman, 2000), and vital for collaborating with others in teams (Halfhill, 2025; Vanhove et al., 2023). In other words, students were prompted to reflect and report on meaningful understanding of self, of others and of social interactions vital to teamwork (based on definitions by Ibarra (1995) and Rapisarda (2002)). Based on the above discussions, and in the context of students enrolled in online MBA programs and engaged in virtual teams, we hypothesized:

- H2.* A significant canonical correlation exists between archetypes of heeding instructions and activated socioemotional abilities of empathy, self-confidence and social skills.

Methodology

This research was conducted in a class titled Performance Management offered as an HRM elective in an online MBA program. The course was offered at an AACSB-accredited business school located in Northeastern US. Classes were held on Zoom (1.5 h per week). In the initiating classes, students self-selected into teams and received instructions for teamwork and crafting of the final report (see Tables 1 and 2). Self-selected teams, common in elective courses, reportedly communicate better, show greater interest in working with each other and display higher levels of trust (Chapman et al., 2006). The task for virtual teams was to: (1) develop a Behaviorally Anchored Rating Scale (BARS) essential for peer evaluations, (2) present the results of teamwork during a Zoom session to the class and gather feedback from the instructor and students in the seventh week of a 15-week term, (3) respond to the feedback and present a final report. In the final reports, students were required to include: (1) the final version of the BARS developed by the team and (2) a reflective statement of instructions and prompts followed, and learning derived from participation in virtual teamwork. The evidence of heeded instructions and prompted reflections was therefore present in the final reports submitted by enrolled students. After all assignments were graded, the final grades were

posted, and a period of one year had passed, the co-authors received permission from St. John Fisher University's Institutional Review Board for use of already-collected student reports as secondary data (IRB File no: 4,531-121825-03). Based on the IRB guidelines, the de-identified reports were shared with other co-authors who independently content analyzed the 56 final papers.

Data analysis and classification

To address the concern with eliminating sources of bias, the instructor's role in data analysis was limited to de-identifying the final reports and making them available to co-authors. The co-authors examined each report separately using: (1) the list of instructions and prompts received by students (see [Tables 1 and 2](#)) and (2) a common data matrix created as an Excel file for the purpose of classification. This Excel file included 56 rows, each devoted to a particular de-identified and numbered final report. It included twelve columns: nine for instructions and three for prompts. In the resulting cell, the co-authors (working separately) read the reports to classify the responses. For instance, the first row of the spreadsheet referred to the de-identified final report 1; the second column (the first column was the report number) was devoted to instruction #1 ("Explain your contribution to the creation of the team's charter"). The co-authors analyzed reports independently. If report 1 suggested that a student had heeded instruction #1, the co-author entered a 1 in the cell (report 1, column 2). If the evidence of heeding was absent or inadequate, the co-author entered a 0 in the cell. If report's row total was 12, it would suggest that the student had adequately heeded all instructions and prompts; a total of 56 at the bottom of any column would indicate that *all* students had heeded that instruction or prompt.

Inter-coder reliability and validity

The theoretical justification of a binary rating scale is rooted in [Khamboonruang \(2022\)](#). The author argues that the rater-mediated assessment and use of binary scales produce more consistent results than analytical scales. The author's inferences are derived from a study that used multiple raters to conduct the dichotomous classification of written material submitted by students. The present study is similarly based on twelve, rater-mediated binary classifications, i.e. did a student's final paper reflected that: (1) they sufficiently heeded each of the nine instructions, yes or no and (2) they sufficiently responded to each of the three prompts about socioemotional abilities, yes or no (please see [Tables 1 and 2](#) for each of the nine instructions and three socioemotional abilities). This type of rater-mediated assessment (versus students' self-evaluation) is successfully used in the assessment of students' proficiency in spoken and written language ([Knoch et al., 2021](#)). As [Khamboonruang \(2022\)](#) notes, the primary concern with binary scales relates to internal validity, i.e. is the binary classification of a 0 or a 1 justified, and is it consistent across raters? Did, for instance, the co-authors erroneously discount evidence of heeding by assigning a zero in a cell, or did they erroneously assign a 1 in a cell when the report contained poor or no evidence of instruction or prompt heeded. For this purpose, the co-authors met to assess inter-coder reliability. The inter-rater reliability estimated in the first meeting, after all independent analyses were conducted, was over 99%. In other words, the independently produced Excel files matched in terms of 665 of 672 cells (56 rows and 12 columns), i.e. inter-coder reliability was greater than 99%. The reports and the justifications for seven differing cells were re-examined; the final spreadsheet used to estimate means, significance of means and test hypotheses – are based on the consensus. [Table 3](#) shows the results of calculating averages of 1 and 0s for each instruction and each prompt, and the error of the sampling means. The test to evaluate whether the estimated means are significantly different than zero is significant. This test should address concerns about overtly large standard deviations and the validity of estimated means.

Table 3. Key statistics of measured variables (yes = number who heeded direction, no = number who did not heed direction)

Instructions (sample size = 56) (1 for heeded, 0 for insufficient or absent heeding)	Sample mean	Error of sample mean
<i>Teamwork</i>		
1. Charter discussed (Yes = 55, No = 1)	0.9821	0.134
2. Influential charter (Yes = 50, No = 6)	0.8929	0.042
3. Behavioral Change (Yes = 26, No = 30)	0.4643	0.065
4. Responsiveness to feedback (Yes = 32, No = 24)	0.5714	0.085
5. Usefulness of feedback (Yes = 17, No = 39)	0.3036	0.062
6. New knowledge from project (Yes = 53, No = 3)	0.9464	0.03
7. New knowledge from assigned readings (Yes = 21, No = 35)	0.3750	0.065
8. New knowledge from class only (Yes = 52, No = 4)	0.9286	0.035
9. New knowledge derived from peers (Yes = 18, No = 38)	0.3214	0.063
<i>Socioemotional abilities</i>		
10. Social skills: interactions with others	0.5536	0.067
11. Self-confidence: awareness of one's self and learning	0.6429	0.064
12. Empathy: awareness and understanding of others	0.3750	0.065
Note(s): a. All means are tested for significant difference from zero, all <i>t</i> tests are significant with $p < 0.001$		
Source(s): Authors' own work		

Findings

The most heeded instruction relates to discussion of the process by which the team charter was developed (98% heeded), and of the learning derived from the project (95% heeded). The least heeded instruction relates to the discussion of feedback received from others (30% heeded). Heeding of instruction related to discussing new knowledge from peers (32% heeded), and new knowledge derived from assigned readings (37% heeded) are also relatively low. The prompt for reflecting on the influence of other team members is ignored by 65% of students. The prompt requiring reflection about oneself is heeded by only 64% of the students. In general, of the nine instructions and three prompts, only three trigger heeding greater than 90% (discussion of charter, new knowledge from project, new learning from class). In general, the assumption that once instructed, students will heed – is largely falsified.

The first hypothesis relates to archetypes of heeding instructions. Table 4 shows the results of the exploratory factor analysis based on the nine criteria for assessing the heeding of instructions. The hypothesis is supported; we identify three archetypes (see Table 4 for a brief description). The first archetype relates to the *social learner*. This student follows directions about interacting with others, i.e. discusses the usefulness of feedback from team members, reports behavioral changes and discusses new knowledge derived from peers in the team. This archetype of heeding instructions does not mention the charter or discuss its influence, speaks very little of the learning derived from the assigned reading and mentions very little about the knowledge gained from the class or the project. The second archetype of instruction-heeding refers to the *perfunctory participant*. This archetype goes through the motions; they follow the first direction received, i.e. they discuss participating in the process of framing a charter. Then they proceed to a discussion of learning derived from the project. This archetype is insensitive to other instructions. The third archetype is *instruction insensitive*; they make no mention of the team nor of the charter. They are unmoved by instructions to reflect on the feedback received from team members or peers. They limit the report to the learning derived from the class overall, and present little evidence of learning from their participation in the virtual team. It is noteworthy that none of the archetypes heed instructions in significant ways about discussing the influence of the charter, responsiveness to feedback or from assigned readings.

Table 4. Identifying archetypes of heeding instructions

Rotated component matrix ^a	Component		
	1	2	3
1. Charter discussed	-0.005	0.858	0.085
2. Influential charter	0.212	0.653	-0.350
3. Behavioral Change	0.769	0.140	0.151
4. Responsiveness to feedback	0.678	0.225	-0.505
5. Usefulness of feedback	0.891	0.057	-0.043
6. New knowledge from project	0.141	0.845	0.037
7. New knowledge from assigned readings	0.478	0.093	0.589
8. New knowledge from class only	0.053	-0.045	0.778
9. New knowledge derived from peers	0.727	0.059	0.211

Archetypes identified based on factor loadings >0.7

SOCIAL LEARNER: This participant’s final paper reflects acquisition of new knowledge from feedback in the team, from interacting with peers, and evidence of behavioral change [a composite of items (3 + 5+9/3)]

PERFUNCTORY HEEDER: This participant is going through the motions to demonstrate fealty to the charter the team was required to create and heeded instructions about new knowledge derived from the project [a composite of items (1 + 6)/2]

INSTRUCTION INSENSITIVE: This participant focuses their entire attention on saying they gained new knowledge from class overall [without responsiveness to instructions about discussion of charter, peer, team, i.e. item 8 only]

Note(s): ^aExtraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 5 iterations

Source(s): Authors’ own work

The second hypothesis proposes that a significant canonical correlation exists between two sets of variables (archetypes of instruction-heeding, activated socioemotional abilities). This hypothesis is supported. The results of a canonical correlation analysis are illustrated in Figures 1 and 2. The evidence of a significant relationship between three archetypes taken together, and three activated socioemotional abilities taken together is evident from a

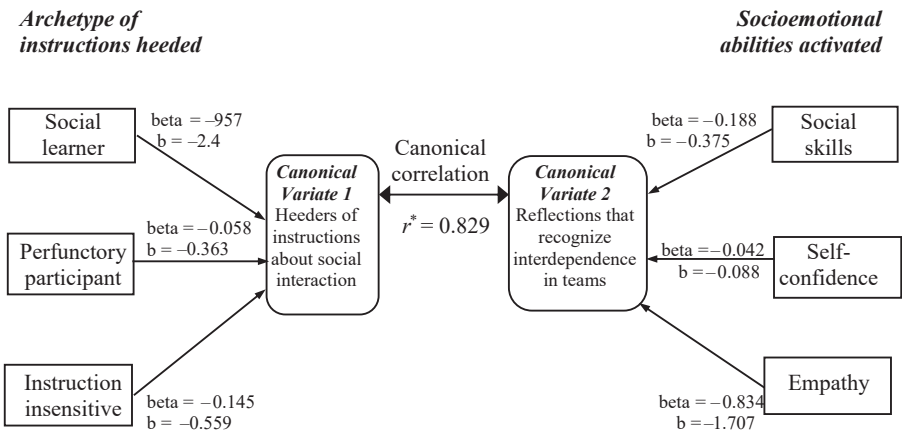


Figure 1. Canonical correlations between two sets of vectors (beta weights). Source: Authors’ own work

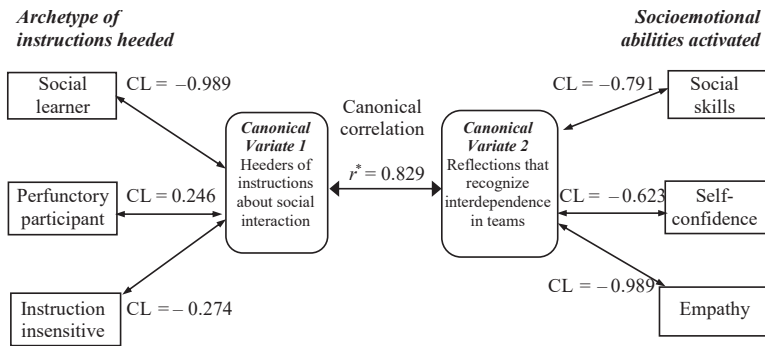


Figure 2. Canonical loadings of vectors on canonical variates. Source: Authors' own work

significant multivariate analysis of variance (MANOVA). In the figures, canonical variate 1 (CV1) represents a linear combination of archetypes, and canonical variate 2 (CV2) represents a linear combination of activated socioemotional abilities. Canonical correlation is the product-moment correlation estimated between CV1 and CV2 (based on [Hotelling, 1936](#)). The canonical correlation procedure: (1) explains each variable's contribution to their respective canonical variate, (2) overcomes the limits of drawing inferences based on simple correlations between pairs of variables at a time and (3) helps draw inferences about relationships between the archetypes of instruction-heeding and activated socioemotional abilities simultaneously, i.e. accounting for the influence of all variables.

The identity of the canonical variates are inferred from: (1) the beta weights that estimate the change in each variable's standard deviation that contribute to one unit change in the estimated canonical variate ([Figure 1](#)) and (2) the canonical loading (CL), analogous to a factor loading obtained from a rotated component matrix of a principal component analysis, that estimates the correlation between each variable and the canonical variate ([Figure 2](#)). For instance, when the standard deviation of the *social learner* archetype changes by 0.957 units, CV1 changes by a unit, and the correlation between *social learner* archetype and the canonical variate 1 is 0.989. CV1 is inordinately about the social learner archetype while controlling for the impact of other archetypes; hence, we label it as "heeders of instructions about social interaction". Similarly, the greatest contributor to CV2 is activated empathy, i.e. the beta weight far overshadows those of other activated abilities. We label CV2 as "reflections that activate awareness of interdependence in the team." The CLs shown between CV2 and the activated socioemotional abilities suggest that while CV1 activates empathy the most, it also activates social skills and self-confidence to a somewhat lesser degree. One archetype of heeding instruction therefore produces multiple benefits; the other archetypes exert very little discernible influence.

Significance of parameter estimates

As [Figures 1 and 2](#) illustrate, the canonical correlation in the specified model (r^*) is 0.8286. Four independent tests, obtained from the MANOVA procedure (using SPSS version 29), suggest that the canonical correlation is significant. For instance, Pillai's Trace suggests that the archetypes explain 87% of the variation in the canonical variates representing the three archetypes of heeding instruction and three types of socioemotional abilities activated by heeding instructions ($F = 7.114, p < 0.001$). Hotelling's trace coefficient (0.413, $F = 13.05, p < 0.001$) suggests that the centroids of the two groups (archetypes, socioemotional abilities activated) differ significantly. Wilks lambda suggests that the canonical correlation is significantly different than zero (0.256, $F = 10.07, p < 0.001$). Similarly, Roy's largest root test (0.687) identifies the maximum standardized difference between the variables contributing to

the canonical variates. In other words, it estimates the strongest linear relationship between predictor variables and the canonical variate.

Discussion

This research finds supportive evidence for the hypotheses that guided the study, i.e. archetypes of instruction-heeding exist and instructions that guide students in virtual teams to interact with each other activate empathy the most, but also notable levels of social skills and self-confidence. Most instructions produce low-level or perfunctory adherence and point to wasted effort. These findings are new to the literature as are the implications they produce for future research. Pedagogical research is called to heed the urgency and consequentiality of growing reports that horses led to water (i.e. instructed) and are not drinking (i.e. heeding) and therefore not learning to the satisfaction of instructors nor performing to the satisfaction of employers. Crafting more instructions without attention to what is and is not heeded, and what the heeding does and does not produce in terms of learning – is unhelpful to the constituencies served. The preliminary test of the notion “if we instruct them, they will heed; if we prompt them, they will reflect as prompted” fails.

Three clear implications deserve the attention of scholars focused on producing workplace-ready students engaged in virtual teams in online MBA classes. First, current scholarship agrees that class teams should frame a charter (Hunsaker *et al.*, 2011; Jassawalla *et al.*, 2026). Considerable scholarship speaks to instructors interested in helping students craft charters to guide classroom teamwork (Mathieu and Rapp, 2009). However, as the archetype of perfunctory participant suggests, this instruction was followed to the exclusion of all other instructions about teamwork (see Table 4). The notions that instructions for creating charters may produce adverse responses from students, and trigger inattentiveness to other instructions – remain external to extant pedagogical theory.

Second, less than half of the students respond to instructions about reporting on behavioral change, the usefulness of feedback received, new knowledge derived from assigned readings and new knowledge derived from peers. The notion that *most* instruction about teamwork is unheeded remains outside of current discussions devoted to business school-related pedagogies. This finding resonates with recent critiques that too many insights are conceptually derived and advocacy-oriented (see Shi *et al.*, 2025), without adequate regard for students’ responsiveness to instructions crafted from these insights, and what they can produce in practice.

Third, the finding that heeding instructions is a multidimensional construct deserves attention. Were it unidimensional, the advocacy for more and better instructions and more severe consequences for *not* heeding instructions, might seem justified (see Radovic *et al.*, 2023). However, the present study suggests that more instruction is unlikely to shape heeding; the type of instruction matters inordinately. Instructions about interacting with others trigger the strongest activation of socioemotional abilities. As the canonical correlation suggests, it is the one archetype of instruction-heeding that primarily activates empathy, but also, to a lesser extent, activates self-confidence and social skills.

Conclusion

This study aimed to address the distance between the inordinately rich knowledge about teaching and instructing students, and an entirely underdeveloped theoretical understanding of heeding instructions. Current thinking holds that “if we instruct them, they will heed.” This assumption is largely rejected by the study; instructions may be provided, but heeding remains low. The study identifies archetypes of heeding instructions and estimates the contribution of each archetype to three activated socioemotional abilities. The findings are consistent with the intent of the study, i.e. presentation of preliminary findings to stimulate new thinking and research and not the presentation of widely generalizable results. The focus was on ensuring

internal validity, or consistency between instruction and the way the heeding was coded. Future research is called to assess instruction-heeding with more sensitive Likert or itemized rating scales, and not just binary scales as does this study, and employ a structural equation model or partial least squares procedure to produce a better understanding between instruction-heeding archetypes and socioemotional abilities of students. Larger samples from multiple classes and multiple online MBA programs are sorely needed before generalizable knowledge develops. For instructors, the present study calls attention to the low likelihood that instructions alone make a difference to teamwork because the heeding seems low. For MBA program administrators, the present study highlights the importance of defining and assessing the extent of instruction-heeding as an important learning outcome.

References

- Aaron, J., McDowell, W. and Herdman, A. (2014), "The effects of a team charter on student team behaviors", *The Journal of Education for Business*, Vol. 2, pp. 90-97, doi: [10.1080/08832323.2013.763753](https://doi.org/10.1080/08832323.2013.763753).
- Anonymous (2025), "Business master's, and online MBA ranking results", QS Global MBA, available at: <https://www.qs.com/insights/qs-global-mba-business-masters-and-online-mba-ranking-results>
- Astin, A.W. (1984), "Student involvement: a developmental theory for higher education", *Journal of College Student Development*, Vol. 40, pp. 518-529.
- Bauer, M., Reeves, P.M., Roney, J. and Fiore, S.M. (2025), "Expanding roles for research administration and research development professionals: a team science coaching program", *The Journal of Research Administration*, Vol. 56, pp. 7-27.
- Bennis, W. and O'Toole, J. (2005), "How business schools lost their way", *Harvard Business Review*, Vol. 83 No. 5, pp. 96-104.
- Biggs, J. (1999), *Teaching for Quality Learning at University*, Open University Press, UK.
- Biwer, F., De Bruin, A.B.H., Schreurs, S. and Oude Egbrink, M.G.A. (2020), "Future steps in teaching desirably difficult learning strategies: reflections from the study smart program", *Journal of Applied Research in Memory and Cognition*, Vol. 9 No. 4, pp. 439-446, doi: [10.1016/j.jarmac.2020.07.006](https://doi.org/10.1016/j.jarmac.2020.07.006).
- Boyatzis, R.E., Thiel, K., Rochford, K. and Black, A. (2017), "Emotional and social intelligence competencies of incident team commanders fighting wildfires", *The Journal of Applied Behavioral Science*, Vol. 53 No. 4, pp. 498-516, doi: [10.1177/0021886317731575](https://doi.org/10.1177/0021886317731575).
- Byrne, J.A. (2022), "By the numbers: how rare is your MBA degree?", *Poets and Quants*, available at: <https://poetsandquants.com/2022/04/27/size-of-top-u-s-mba-programs-by-enrollment/> (accessed 16 November 2025).
- Carraher-Wolverton, C., Lai, G., Navarre, J.T., Davis, D. and Lanier, P. (2025), "Investigating the factors that engage students to be successful in hybrid business analytics courses", *Journal of Information Systems Education*, Vol. 36 No. 4, pp. 417-431, doi: [10.62273/csvp4044](https://doi.org/10.62273/csvp4044).
- Cavilla, R. (2017), *The Effects of Student Reflection on Academic Performance and Motivation*, Sage Open, doi: [10.1177/2158244017733790](https://doi.org/10.1177/2158244017733790), available at: https://www.researchgate.net/publication/320028552_The_Effects_of_Student_Reflection_on_Academic_Performance_and_Motivation (accessed 16 November 2025).
- Chapman, K., Meuter, M., Toy, D. and Wright, L. (2006), "Can't we pick our own groups? The influence of group selection method on group dynamics and outcomes", *Journal of Management Education*, Vol. 30 No. 4, pp. 557-569, doi: [10.1177/1052562905284872](https://doi.org/10.1177/1052562905284872).
- Dadiyal, C. and Gosavi, Y.M. (2018), "Various initiatives taken by industries to develop employees skills: a review", *Global Journal of Retail Management*, Vol. 8, pp. 57-66.
- David, L., Biwer, F., Crutzen, R. and de Bruin, A. (2024), "The challenge of change: understanding the role of habits in university students' self-regulated learning", *Higher Education*, Vol. 88 No. 5, pp. 2037-2055, doi: [10.1007/s10734-024-01199-w](https://doi.org/10.1007/s10734-024-01199-w).

- Deci, E.L. and Ryan, R.M. (2000), "The 'what' and 'why' of goal pursuits: human needs and the self-determination of behavior", *Psychological Inquiry*, Vol. 11 No. 4, pp. 227-268, doi: [10.1207/S15327965PLI1104_01](https://doi.org/10.1207/S15327965PLI1104_01).
- Deci, E.L. and Ryan, R.M. (2012), "Self-determination theory", in *Handbook of Theories of Social Psychology*, Sage Publications', Thousand Oaks, CA, Vol. 1, pp. 416-436.
- Deci, E.L. and Ryan, R.M. (2013), *Intrinsic Motivation and Self-Determination in Human Behavior*, Springer Science & Business Media, New York, NY.
- Dirkx, K.J.H., Camp, G., Kester, L. and Kirschner, P.A. (2019), "Do secondary school students make use of effective study strategies when they study on their own?", *Applied Cognitive Psychology*, Vol. 33 No. 5, pp. 952-957, doi: [10.1002/acp.3584](https://doi.org/10.1002/acp.3584), available at: https://www.researchgate.net/publication/333928772_Do_secondary_school_students_make_use_of_effective_study_strategies_when_they_study_on_their_own (accessed 16 November 2025).
- Dresel, M., Schmitz, B., Schober, B., Spiel, C., Ziegler, A., Engelschalk, T., Jostl, G., Klug, J., Roth, A., Wimmer, B. and Steuer, G. (2015), "Competencies for successful self-regulated learning in higher education: structural model and indications drawn from expert interviews", *Studies in Higher Education*, Vol. 40 No. 3, pp. 454-470, doi: [10.1080/03075079.2015.1004236](https://doi.org/10.1080/03075079.2015.1004236), available at: https://www.researchgate.net/publication/273525693_Competencies_for_successful_self-regulated_learning_in_higher_education_structural_model_and_indications_drawn_from_expert_interviews (accessed 16 November 2025).
- Elting, L. (2024), "Managers don't want to hire Gen Z workers, Citing a lack of soft skills – survey says", *Forbes*, available at: <https://www.forbes.com/sites/lizelting/2024/12/23/managers-dont-want-to-hire-gen-z-workers-citing-a-lack-of-soft-skills-survey-says/> (accessed 4 December 2025).
- Faza, A. and Lestari, D. (2025), "Self-regulated learning in the digital age: a systematic review", *International Review of Research in Open and Distance Learning*, Vol. 26 No. 2, pp. 23-58, doi: [10.19173/irrodl.v26i2.8119](https://doi.org/10.19173/irrodl.v26i2.8119), available at: <https://files.eric.ed.gov/fulltext/EJ1477329.pdf> (accessed 16 November 2025).
- Foerst, N.M., Klug, J., Jostl, G., Spiel, C. and Schober, B. (2017), "Knowledge vs. action: discrepancies in university students' knowledge about and self-reported use of self-regulated learning strategies", *Frontiers in Psychology*, Vol. 8, 1288, doi: [10.3389/fpsyg.2017.01288](https://doi.org/10.3389/fpsyg.2017.01288), available at: <https://ucrisportal.univie.ac.at/en/publications/knowledge-versus-action-discrepancies-in-university-students-know/> (accessed 16 November 2025).
- Friess, E. and Lam, C. (2020), "'Dude, that sucks': examining scrum's influence on empathy in student teams", *Technical Communication Quarterly*, Vol. 30 No. 2, pp. 189-203, doi: [10.1080/10572252.2020.1803413](https://doi.org/10.1080/10572252.2020.1803413).
- Gagne, M. and Deci, E.L. (2005), "Self-determination theory and work motivation", *Journal of Organizational Behavior*, Vol. 26 No. 4, pp. 331-362, doi: [10.1002/job.322](https://doi.org/10.1002/job.322).
- Gardner, R., Blomme, R.J., Kil, A. and Nick, V.D. (2024), "Cultural influences on early trust development in virtual teams", *Management Research Review*, Vol. 47 No. 6, pp. 861-882, doi: [10.1108/MRR-09-2022-0615](https://doi.org/10.1108/MRR-09-2022-0615).
- Ginting, H., Mahiranissa, A., Bektı, R. and Febriansyah, H. (2020), "The effect of outing Team Building training on soft skills among MBA students", *International Journal of Management in Education*, Vol. 18 No. 3, p. 112, doi: [10.1016/j.ijme.2020.100423](https://doi.org/10.1016/j.ijme.2020.100423), available at: https://www.researchgate.net/publication/344441100_The_effect_of_outing_Team_Building_training_on_soft_skills_among_MBA_students (accessed 8 December 2025).
- Gnecco, G., Landi, S. and Riccaboni, M. (2024), "The emergence of social soft skill needs in the post COVID-19 era", *Quality and Quantity*, Vol. 58 No. 1, pp. 647-680, doi: [10.1007/s11135-023-01659-y](https://doi.org/10.1007/s11135-023-01659-y), available at: https://ideas.repec.org/a/spr/qualqt/v58y2024i1d10.1007_s11135-023-01659-y.html (accessed 16 November 2025).
- Goleman, D. (2000), "Leadership that gets results", *Harvard Business Review*, Vol. 78, pp. 78-90.
- Goleman, D. (2004), "What makes a leader?", *Harvard Business Review*, Vol. 82, pp. 82-91.
- Goleman, D., Boyatzis, R.E. and McKee, A. (2013), *Primal Leadership: Learning to Lead with Emotional Intelligence*, Harvard Business School Press, Cambridge, MA.

- Halfhill, T. (2025), "The enduring and amplified relevance of quantifying the 'softer side' of management education", *Journal of Management Education*, Vol. 49 No. 6, pp. 803-807, doi: [10.1177/10525629251355562](https://doi.org/10.1177/10525629251355562).
- Hammond, K., Kang, W., Chen, C., Daniel, B., Tewari, R., Bruce, M. and Darroch, B. (2019), "Classroom teaching practices and student perceived university performance", *Marketing Management Association Annual Conference Proceedings*, Spring 2019, pp. 97-98, available at: <https://37458e1f-a2a4-48bd-875d-d4e7a3e3d75c.filesusr.com/ugd/3968cae494566fc36417ab1745806bf5c9f1a.pdf> (accessed 30 November 2025).
- Herzog-Punzenberger, B., Altrichter, H., Brown, M., Burns, D., Nortvedt, G.A., Guri, S., Eline, W., Funda, N., Magdalena, F. and McNamara, G. and O'Hara Joe (2020), "Teachers responding to cultural diversity: case studies on assessment practices, challenges and experiences in secondary schools in Austria, Ireland, Norway and Turkey", *Educational Assessment, Evaluation and Accountability*, Vol. 32 No. 3, pp. 395-424, doi: [10.1007/s11092-020-09330-y](https://doi.org/10.1007/s11092-020-09330-y).
- Hill, A. and Peuker, S. (2024), "Expanding students' social networks via optimized team assignments", *Annals of Operations Research*, Vol. 332 Nos 1-3, pp. 1107-1131, doi: [10.1007/s10479-023-05492-2](https://doi.org/10.1007/s10479-023-05492-2).
- Hincapie, M.X. and Hill, N.S. (2024), "The impact of team virtuality on the performance of on-campus student teams", *The Academy of Management Learning and Education*, Vol. 23 No. 1, pp. 158-175, doi: [10.5465/amle.2022.0397](https://doi.org/10.5465/amle.2022.0397).
- Hogan, M. and Young, K. (2020), "Designing group assignments to develop groupwork skills", *Journal of Information Systems Education*, Vol. 32 No. 4, pp. 274-282, available at: <https://jise.org/Volume32/n4/JISE2021v32n4pp274-282.html>
- Hotelling, H. (1936), "Relationship between two sets of variables", *Biometrika*, Vol. 28 Nos 3/4, pp. 321-327, doi: [10.2307/2333955](https://doi.org/10.2307/2333955), available at: https://www.statsref.com/HTML/canonical_correlation.html (accessed 8 December 2025).
- Howell, P., Aryal, A. and Battle, C. (2025), "Operationalizing AACSB's societal impact standard: assessing SDG 8 integration through a community partner internship program", *Journal of Business and Socio-economic Development*, Vol. 5 No. 4, pp. 1-23, doi: [10.1108/JBSED-02-2025-0023](https://doi.org/10.1108/JBSED-02-2025-0023).
- Hunsaker, P., Pavett, C. and Hunsaker, J. (2011), "Increasing student-learning team effectiveness with team charters", *The Journal of Education for Business*, Vol. 86 No. 3, pp. 127-139, doi: [10.1080/08832323.2010.489588](https://doi.org/10.1080/08832323.2010.489588).
- Ibarra, H. (1995), "Race, opportunity, and diversity of social circles in managerial networks", *Academy of Management Journal*, Vol. 38 No. 3, pp. 673-703, doi: [10.2307/256742](https://doi.org/10.2307/256742).
- Iordanou, K. and Kuhn, D. (2025), "Investigating climate change through argumentation: Purposeful questioning supports argumentation and knowledge acquisition", *Journal of Experimental Psychology*, Vol. 31 No. 4, pp. 276-285, doi: [10.1037/xap0000534](https://doi.org/10.1037/xap0000534).
- Jassawalla, A.R., Sashittal, H.C. and Malshe, A. (2010), "Effects of transparency and at-stakeness on students' perceptions of their ability to work collaboratively in effective classroom teams: a partial test of the Jassawalla and Sashittal model", *Decision Sciences Journal of Innovative Education*, Vol. 8 No. 1, pp. 35-53, doi: [10.1111/j.1540-4609.2009.00242.x](https://doi.org/10.1111/j.1540-4609.2009.00242.x).
- Jassawalla, A.R., Sashittal, H.C. and Witt, A. (2026), "How transformative learning theory can Inform team building pedagogy", *Journal of Management Education*, Vol. 50 No. 1, pp. 102-134, doi: [10.1177/10525629251388109](https://doi.org/10.1177/10525629251388109).
- Khamboonruang, A. (2022), "Building an initial validity argument for binary and analytic rating scales for EFL classroom writing assessment: evidence from Many-Facets Rasch Measurement", *Reflections*, Vol. 29 No. 3, pp. 675-699, doi: [10.61508/refl.v29i3.262690](https://doi.org/10.61508/refl.v29i3.262690), available at: <https://files.eric.ed.gov/fulltext/EJ1361633.pdf>
- Knoch, U., Fairbairn, J. and Jin, Y. (2021), *Scoring Second Language Spoken and Written Performance: Issues, Options and Directions. British Council Monographs on Modern Language Testing*, University of Toronto Press, Toronto CA, 9781781799512.
- Korhonen, V. (2021), "Academically engaged or not? An exploratory study on modelling and assessing the engagement of first-year students at a research-intensive university in Finland", *Assessment*

- Larsen, I. (2025), "Project-Based Learning in business and management education: a scoping review and research agenda", *International Journal of Management in Education*, Vol. 23 No. 2, 101159, doi: [10.1016/j.ijme.2025.101159](https://doi.org/10.1016/j.ijme.2025.101159), available at: https://www.researchgate.net/publication/390127672_Project-Based_Learning_in_business_and_management_education_A_scoping_review_and_research_agenda (accessed 8 December 2025).
- Liu, R., Yang, J. and Zhang, F. (2021), "Managing technology transfer between cooperative firms: the roles of cooperation, asset specificity and justice", *The Journal of Business and Industrial Marketing*, Vol. 36 No. 5, pp. 765-781, doi: [10.1108/JBIM-10-2019-0462](https://doi.org/10.1108/JBIM-10-2019-0462).
- Majid, S., Eapen, C., Aung, E. and Oo, K. (2019), "The importance of soft skills for employability and career development: students and employers' perspectives", *The IUP Journal of Soft Skills*, Vol. 13 No. 4, pp. 7-39, available at: <https://ssrn.com/abstract=3796720>
- Maslikowska, M. and Gibbert, M. (2023), "Dynamic boundaries in virtual student teams: is participant alignment the new team cohesion?", *The Academy of Management Learning and Education*, Vol. 22 No. 4, pp. 621-640, doi: [10.5465/amle.2020.0524](https://doi.org/10.5465/amle.2020.0524).
- Mathieu, J.E. and Rapp, T.L. (2009), "Laying the foundation for successful team performance trajectories: the roles of team charters and performance strategies", *Journal of Applied Psychology*, Vol. 94 No. 1, pp. 90-103, doi: [10.1037/a0013257](https://doi.org/10.1037/a0013257).
- Matthews, K., Janicki, T., He, L. and Patterson, L. (2012), "Implementation of an automated grading system with an adaptive learning component to affect student feedback and response time", *Journal of Information Systems Education*, Vol. 23, pp. 71-83.
- McDowell, W.C., Herdman, A.O. and Aaron, J. (2011), "Charting the course: the effects of team charters on emergent behavioral norms", *Organization Development Journal*, Vol. 29, pp. 79-88.
- McLeod, S. (2025), "Vygotsky's theory of cognitive development", available at: <https://www.simplypsychology.org/vygotsky.html>
- Mezirow, J. (2006), "An overview of transformative learning", in Crowther, J. and Sutherland, P. (Eds), *Lifelong Learning: Concept and Contexts*, Chapter 6, Routledge, pp. 90-105.
- Morse, J.M. (2008), "'It's only a qualitative study!' Considering the qualitative foundations of social sciences", *Qualitative Health Research*, Vol. 18 No. 2, pp. 147-148, doi: [10.1177/1049732307310262](https://doi.org/10.1177/1049732307310262).
- Muhammad, M.A. and Malik, A. (2023), "Cybergogy paradigms for technology-infused learning in higher education 4.0: a critical analysis from global perspective", *Education and Training*, Vol. 65 No. 6, pp. 871-890, doi: [10.1108/ET-08-2022-0324](https://doi.org/10.1108/ET-08-2022-0324).
- Naqvi, F.N. and Lodhi, A. (2019), "What constitutes intellectual capital for IT-software industry? A Delphi study", *Paradigms*, Vol. 13, pp. 1-9, doi: [10.24312/1996130201](https://doi.org/10.24312/1996130201).
- Norton, W.I. Jr and Sussman, L. (2016), "Team charters: theoretical foundations and practical implications for quality and performance", *Journal for Quality and Participation*, Vol. 39, pp. 33-35.
- Panadero, E.A. (2017), "Review of self-regulated learning: Six models and four directions for research", *Frontiers in Psychology*, Vol. 8, p. 422, doi: [10.3389/fpsyg.2017.00422](https://doi.org/10.3389/fpsyg.2017.00422).
- Pascarella, E.T. and Terenzini, P.T. (1991), *How College Affects Students: Findings and Insights from Twenty Years of Research*, Jossey-Bass, San Francisco, CA.
- Petkova, A.P., Domingo, M.A. and Lamm, E. (2021), "Let's be frank: individual and team-level predictors of improvement in student team effectiveness following peer-evaluation feedback", *International Journal of Management in Education*, Vol. 19, pp. 2-15, doi: [10.1016/j.ijme.2021.100538](https://doi.org/10.1016/j.ijme.2021.100538).
- Pfeffer, J. and Fong, C.T. (2002), "The end of business schools? Less success than meets the eye", *The Academy of Management Learning and Education*, Vol. 1 No. 1, pp. 78-96, doi: [10.5465/AMLE.2002.7373679](https://doi.org/10.5465/AMLE.2002.7373679).

- Pierce, H. (2021), "Nurturing care for early childhood development: path to improving child outcomes in Africa", *Population Research and Policy Review*, Vol. 40 No. 2, pp. 285-307, doi: [10.1007/s11113-020-09581-z](https://doi.org/10.1007/s11113-020-09581-z).
- Pinheiro, M., Rebelo, T., Lourenco, P.R. and Dimas, I. (2023), "What drives team learning: core conditions and paths", *Journal of Workplace Learning*, Vol. 35 No. 2, pp. 146-163, doi: [10.1108/JWL-06-2022-0079](https://doi.org/10.1108/JWL-06-2022-0079).
- Radovic, S., Firssova, O., Hummel, H. and Vermeulen, M. (2023), "Improving academic performance: strengthening the relation between theory and practice through prompted reflection", *Active Learning in Higher Education*, Vol. 24 No. 2, pp. 139-154, doi: [10.1177/14697874211014411](https://doi.org/10.1177/14697874211014411).
- Rapisarda, B.A. (2002), "The impact of emotional intelligence on work team cohesiveness and performance", *International Journal of Organizational Analysis*, Vol. 10 No. 4, pp. 363-379, doi: [10.1108/eb028958](https://doi.org/10.1108/eb028958).
- Rea, S.D., Wang, L., Muenks, K. and Yan, V.X. (2022), "Students can (mostly) recognize effective learning, so why do they not do it?", *Journal of Intelligence*, Vol. 10 No. 4, 127, PMID: PMCID: PMC9781761 doi: [10.3390/jintelligence10040127](https://doi.org/10.3390/jintelligence10040127).
- Schlee, R.P., Vicki, B.E. and Harich, K.R. (2020), "From Millennials to Gen Z: changes in student attitudes about group projects", *The Journal of Education for Business*, Vol. 95 No. 3, pp. 139-147, doi: [10.1080/08832323.2019.1622501](https://doi.org/10.1080/08832323.2019.1622501).
- Schreiber, L.M. and Valle, B.E. (2013), "Social constructivist teaching strategies in the small group classroom", *Small Group Research*, Vol. 44 No. 4, pp. 395-411, doi: [10.1177/1046496413488422](https://doi.org/10.1177/1046496413488422).
- Schurmann, V., Bodemer, D. and Marquardt, N. (2025), "Exploring the use of regular reflections in student collaboration: a case study in higher education", *Frontiers in Education*, Vol. 10, 1526487, doi: [10.3389/educ.2025.1526487](https://doi.org/10.3389/educ.2025.1526487).
- Shi, Y., Wu, M., Wei, Y., Chen, J., Dong, Q. and Zhu, K. (2025), "A person-centered perspective in assessing college students' self-regulated learning in an online learning environment: potential profiles, antecedents and outcomes", *International Journal of Educational Technology in Higher Education*, Vol. 22 No. 66, 66, doi: [10.1186/s41239-025-00564-8](https://doi.org/10.1186/s41239-025-00564-8).
- Smith, K.K., MacKenzie, J. and Meyers, R.A. (2014), "Exploring the feasibility of international collaboration and relationship building through a virtual partnership scheme", *International Journal for the Scholarship of Teaching and Learning*, Vol. 8 No. 1, 7, doi: [10.20429/ijstol.2014.080107](https://doi.org/10.20429/ijstol.2014.080107), available at: https://www.researchgate.net/publication/294281039_Exploring_the_Feasibility_of_International_Collaboration_and_Relationship_Building_through_a_Virtual_Partnership_Scheme (accessed 8 December 2025).
- Tinto, V. (1993), *Leaving College: Rethinking the Causes and Cures of Student Attrition*, 2nd ed., University of Chicago Press, Chicago, IL.
- Tonks, D. (2002), "Using marketing simulations for teaching and learning. Reflections on an evolution", *Active Learning in Higher Education*, Vol. 3 No. 2, pp. 177-194, doi: [10.1177/1469787402003002006](https://doi.org/10.1177/1469787402003002006).
- Tran, T. and Herzig, C. (2024), "Team roles and challenges in experiential learning in sustainability accounting education: a four-stage learning cycle", *Accounting Education*, Vol. 35 No. 2, pp. 1-28, doi: [10.1080/09639284.2024.2421851](https://doi.org/10.1080/09639284.2024.2421851).
- Turner, J. and Ibiwani, A.H. (2023), "Guest editorial: technology infused education, preparing graduates for a digital employment market", *Education and Training*, Vol. 65 No. 6, pp. 793-794, doi: [10.1108/ET-10-2023-481](https://doi.org/10.1108/ET-10-2023-481).
- Vanhove, A., Opdecam, E. and Haerens, L. (2023), "Fostering social skills in the Flemish secondary accounting education: perceived challenges, opportunities, and future directions", *Accounting Education*, Vol. 33 No. 4, pp. 414-449, doi: [10.1080/09639284.2023.2208106](https://doi.org/10.1080/09639284.2023.2208106).
- Verplanken, B. and Orbell, S. (2003), "Reflections on past behavior: a self-report index of habit strength", *Journal of Applied Social Psychology*, Vol. 33 No. 6, pp. 1313-1330, doi: [10.1111/j.1559-1816.2003.tb01951.x](https://doi.org/10.1111/j.1559-1816.2003.tb01951.x).

- Vygotsky, L.S. (1978), *Mind in Society: The Development of Higher Psychological Processes*, Harvard University Press, Cambridge, MA, M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds.
- Wise, L. (2026), "What is the best online MBA program in 2026? Financial Times Ranking", *GMAC*, available at: <https://www.gmac.com/resources/learners/business-programs/explore-programs/best-online-mba-programs#:~:text=The%20school%20also%20ranks%20first,institutions%20from%20across%20the%20globe>
- Wyld, D. (2021), "Solving the paradox of teamwork in today's classroom teams", available at: <https://vocal.media/education/solving-the-paradox-of-teamwork-in-today-s-college-classroom>
- Yun, H., Song, H.D. and Kim, Y. (2025), "Identifying university students' online self-regulated learning profiles: predictors, outcomes, and differentiated instructional strategies", *European Journal of Psychology of Education*, Vol. 40 No. 5, doi: [10.1007/s10212-024-00907-5](https://doi.org/10.1007/s10212-024-00907-5).
- Zimmerman, B.J. (1986), "Becoming a self-regulated learner: which are the key subprocesses?", *Contemporary Educational Psychology*, Vol. 11 No. 4, pp. 307-313, doi: [10.1016/0361-476X\(86\)90027-5](https://doi.org/10.1016/0361-476X(86)90027-5).
- Zimmermann, B.J. (2000), "Attaining self-regulation: a social cognitive perspective", in *Handbook of Self Regulation: A Social Cognitive Perspective*, Boekaerts, M., Pintrich, P.R. and Zeidner, Eds, pp. 13-39). Academic Press (Elsevier), San Diego, CA. ISBN: 9780121098902, doi: [10.1016/B978-012109890-2/50031-7](https://doi.org/10.1016/B978-012109890-2/50031-7).

Further reading

- Nguyen, H., Gijlers, H. and Pisoni, G. (2023), "Identifying struggling teams in online challenge-based learning", *Higher Education, Skills and Work-based Learning*, Vol. 13 No. 2, pp. 233-248, doi: [10.1108/HESWBL-06-2022-0131](https://doi.org/10.1108/HESWBL-06-2022-0131).

Corresponding author

Hemant Sashittal can be contacted at: sashi@sjfc.edu