A Mindful Approach to Teaching Emotional Intelligence to Undergraduate Students Online and in Person

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Abstract

In this paper we examine whether emotional intelligence (EI) can be taught online and, if so, what key variables influence the successful implementation of this online learning model. Using a 3 x 2 factorial quasi-experimental design, this mixed-methods study found that a team-based learning environment using a blended teaching approach, supported by mindfulness instruction to teach these skills, can make learning about emotional intelligence accessible and meaningful to undergraduate students. Using peer emotional intelligence assessment scores as a measure of emotional intelligence growth, the study showed a statistically significant impact on the growth of emotional intelligence skills from using a blended approach including direct instruction in mindfulness techniques. Supporting this finding, students clearly expressed a noticeable growth in their emotional intelligence and in that of their peers in interviews conducted at the end of the study. In light of these findings, we propose the RESET cycle model (Recognizing and regulating Emotions through Social and Emotional Team-based learning supported with mindfulness) as a potential foundation for a program to teach EI skills.

Keywords: emotional intelligence, mindfulness, career readiness skills, online learning, team-based learning, Myers-Briggs

1. INTRODUCTION

The ability of technical professionals to work effectively in teams is essential to organizational effectiveness. In fact, "soft skills," such as oral and written communication, collaboration, work ethic, leadership, professionalism, career management, critical thinking, and problem solving, are all considered an integral part of career readiness by the National Association of Colleges and Employers (NACE) (2014a, 2015). However, quite often the focus of information systems and computing education is on the technical capabilities of students (Beard & Schweiger, 2008), and not on these important soft skills. This results in students who enter the workforce with inconsistent interpersonal and teamwork skills, and subsequently these students are not meeting employers' expectations (Mangan, 2007; Mitchell, Skinner, & White, 2010; National Union of Students, 2011). We propose that direct emotional intelligence training, especially when combined with instruction in mindfulness techniques, is an important tool in combating this important issue, and thus allowing us to graduate students who are truly ready for the 21st century workforce.

Emotional intelligence (EI) is a combination of personal and social competences that has been referred to as "soft skills' more scientific and researched counterpart" (Daniel, 2007). A Dictionary of Psychology defines emotional intelligence as "the ability to monitor one's own and other people's emotions, to discriminate between different emotions and label them appropriately, and to use emotional information to guide thinking and behavior" (Coleman, 2008). Goleman, Boyatzis, and McKee (2013) characterize EI using a model with four primary domains—self-awareness, social awareness, self-management, and relationship management — and eighteen associated competencies.

Developing EI competencies affords many benefits to undergraduate students such as increased workplace performance (Bradberry, 2014; Huppke, 2013; Stephen, 2014), leadership talent (Bradberry, 2014; Goleman, 2004, 2013; Goleman et al., 2013), overall job satisfaction (Sener, Demirel, & Sarlak, 2009), and increased earning potential (Bradberry, 2014; Momm, Blickle, Liu, Wihler, Kholin, & Menges, 2014). People with high EI are more self-aware, collaborative, influential, adaptable, reliable, and assertive than their colleagues, and employers look for these traits in job candidates (Bradberry, 2014; Majid & Mulia, 2011). Companies, including Google, Zappos, and Amazon, are using assessments of emotional intelligence during the job search process to vet candidates (NACE, 2015). Yet, employers participating in the NACE Job Outlook 2015 survey indicated that recent college graduates do not possess these characteristics at the same level as past years' graduates (NACE, 2014a). Based on these findings, a good argument can be made for the importance of teaching EI at the undergraduate level.

The Myers-Briggs Type Indicator (MBTI) was used in two central ways in this study. First, it was used as a tool to teach students about self-awareness and awareness of others, both of which are cornerstones of EI (Cherniss, 1999; Cherniss, Goleman, Emmerling, Cowan & Adler, 1998). Second, the study examined whether the MBTI dimensions were associated with individuals' acceptance of online learning as an effective modality for learning about EI.

Team-based learning in an academic setting provides a safe environment to develop these skills for those individuals who might be less comfortable with extensive peer interaction, and this approach was employed with all students participating in this study. To this baseline, we added explicit training in emotional intelligence which, unlike other predictors of success such as IQ and personality type, can be learned and continually improved (Bradberry 2014; Bradberry & Greaves, 2009). In addition, given the evidence based benefits of mindfulness, we also added explicit instruction in mindfulness practices to determine if it could contribute to the success of teaching EI.

Mindfulness has been described as "bringing full awareness into the present moment" (Shapiro, Wang, & Peltason, 2015). As research increasingly bears out the benefits of mindfulness, a wide variety of groups—including corporations, executives, armed forces, primary and secondary schools, and professional athletes—have taken notice and instituted mindfulness programs into their daily routines (Brackett & Rivers; Burton & Effinger, 2014; Oaklander, 2015; Penman, 2012; Puff, 2014). Tan (2012) maintains that, due to neuroplasticity, mindfulness practices offer a way to promote changes in the composition of the brain itself. A study using magnetic resonance imaging before and after a mindfulness program found positive changes in the mindfulness group when compared with the control group, in locations of the brain involved in functions important to EI

such as emotional regulation, self-referential processing, and perspective taking (Hölzel, Carmody, Vanqel, Congleton, Yerramsetti, Gard, & Lazar, 2010).

Much of the research in the area of EI in higher education has been centered on the examination of whether students possess EI and how this factors into predicting work performance, salary and overall wellbeing (Bonesso, Gerli, Barzotto & Comacchio, 2013; Davidson & McEwen, 2012). Moreover, as discussed earlier, the misalignment between employers' expectations and recent graduates' actual emotional intelligence competencies has also been an area of extensive research (Mangan, 2007; National Union of Students, 2011). Other studies have demonstrated that EI is not being taught in undergraduate course offerings (Beard & Schwieger, 2008; Scott-Bracey, 2011). Several authors have noted, however, that fewer studies have been devoted to discovering if and how undergraduate students' emotional intelligence can be improved and what academic curricula and programs can be developed, especially programs with a solid theoretical foundation (Alexander, 2014; Bonesso, et al. 2013; Conley, 2015; Jensen, Cohen, Rilea, Grant, Hannon & Howells, 2007; Lin, Lee, Hsu & Lin, 2011; Malek, Noor-Azniza, Muntasir, Mohammad & Luqman, 2011; Pool & Qualter, 2014; Salami, 2010; Zeidner, Roberts & Matthews, 2008). This study used what is known in the literature, including models, theories and psychometric assessments in the areas of online learning, EI, personality, and mindfulness to address this research gap. An extensive search found no research examining the impact of online EI workshops on the growth of EI and if there are key variables such as mindfulness instruction that influence the successful implementation of this online learning model in a university setting.

Focusing on information systems and computer science students, the recent move to agile development practices, where requirements and solutions evolve through collaboration between self-organizing, cross-functional teams, and on rapid application development, which relies on the rapid development of prototypes, has put a premium on communication and teamwork skills (Singh, Singh, & Sharma, 2012). Software developers typically have interactions with: (1) other developers, especially when their code depends on or needs to interface with routines written by others; (2) software testers, where effective communication between testers and developers is critical to completing cycles of development, testing, deployment, and feedback in a timely manner; and (3) culturally diverse users and customers, especially in global companies, where language and customs differ. The ability of teams to meet customer requirements and deadlines hinges upon the ability of diverse individuals to work collectively and as seamlessly as possible. Individuals that have experience working in teams to accomplish goals tend to be more productive in meeting deliverables on agile software development projects (Woods, 2010). Students that have exposure to team environments before entering the workforce therefore have been shown to have an advantage in terms of a shortened learning curve in becoming productive team members (Cain, 2012).

2. METHODS

Participants

This study was conducted at a small liberal arts college (approximately 3,200 students) and included 159 of the 161 students enrolled in a Management Information Systems course during the Spring 2015 semester (two students opted out of the study). The participants were 57% male and 43% female. The vast majority (94%) of the students were between 20 and 22 years of age, with the remainder ranging between 23 and 56 years old.

The course was three credits and was a core requirement for all students in the college's AACSB accredited business school as well as a required course for the Information Systems minor, and was taught by the computer science department. Weekly class meetings included two one-hour lectures and a two-hour lab session. There were six different course sections, and each one was assigned to receive a different EI workshop and mindfulness treatment. All sections used a team-based learning format.

Procedure and study factors

This mixed-method quasi-experiment used a 3 x 2 factorial design (shown in Table 1). The first factor, the mode of intervention, had three variants: face-to-face (F2F) EI workshops, online EI workshops, and no EI workshops, our control. The second factor was the presence or absence of mindfulness training.

		Factor 1: Type of EI Intervention			
		F2F	**Online**	**None**	**Σ**
Factor 2: Mindfulness Training	**Used**	Inst. 1 (n = 16)	Inst. 1 (n = 30)	Inst. 1 (n = 30)	76
	Not used	Inst. 2 (n = 30)	Inst. 3 (n = 32)	Inst. 4 (n = 21)	83
	Σ	46	62	51	159

Table 1: Study design

The outcome measures or dependent variables were the EI scores from the 153-item Trait Emotional Intelligence Questionnaire (TEIQue) v1.50 self-questionnaire (Petrides, Pita, & Kokkinaki, 2007), and the 15-item TEIQue short-form peer questionnaire (Cooper, & Petrides, (2010). The EI self-assessments were given at the start and end of the semester. The peer assessments were given one month into the semester and again at the end of the semester. The independent variables or co-variates were the Myers-Briggs dimensions, gender, class year, and type of intervention.

In addition, volunteers were solicited from among the participants for interviews. The interviews were conducted at the end of the semester. Twenty-one students were interviewed, with roughly equal numbers from each of the six experimental groups.

Emotional intelligence workshops

The EI intervention included a group that received a series of face-to-face workshops, a group that received computer-mediated workshops, and a control group that received no workshops. In both series, each workshop addressed a different aspect of EI: self-awareness, empathy and awareness of others, and emotional detection. After each workshop was conducted, a manipulation check (survey) was used to measure the immediate influence of the workshop on the EI skills it was designed to teach.

The same instructor taught all of the face-to-face workshops in an effort to achieve consistency among the various experimental groups. These workshops were also designed to require very little instructor interaction to minimize the impact of the instructor on the difference between the online and face-to-face interventions.

Workshop #1: Self-awareness

At the start of the semester, all study participants attended a presentation from a certified Myers-Briggs trainer and administrator that covered the Myers-Briggs trait personality dimensions and each student received their personal Myers-Briggs type. Approximately one week after the presentation, the first EI workshop, entitled "Myers-Briggs: Where to Start," was offered to the non-control EI groups. Students began with a short reading and a review of the Myers-Briggs personality types. Next, students watched a video showing two students (actors) discussing a class project that all students had recently completed. The actors demonstrated behaviors associated with particular Myers-Briggs personality types as well as a variety of emotions due to conflicts caused by the differences in their personalities. The script that used for this video is provided in Appendix A (Author, 2016).

After viewing the video, students were asked a variety of questions about the video and were also asked to identify the Myers-Briggs personality types and emotional conflict that resulted from these differences. In addition, the students were asked to reflect with their teams on issues they had personally encountered that were likely caused by personality differences. The online intervention group completed these tasks in an asynchronous format using a Blackboard discussion forum.

Workshop #2: Empathy

The second EI Workshop, entitled "Augmented Empathy in the Workplace," started with a TED talk by Chris Kluwe (2014) entitled "How augmented reality will change sports… and build empathy." At the end of the video, Kluwe suggested a variety of ways by which augmented reality can foster empathy. Next, students were introduced to empathic concepts based on the work of Michael Sahota (2013) and were given examples of how these concepts applied to the workplace. Students then worked with their teams to develop an idea for an augmented reality application to promote empathy in the workplace. This workshop was delivered approximately two months into the semester, in both face-to-face and synchronous online formats.

Workshop #3: Emotional detection

The third EI Workshop, entitled "Emotional Detection of Facial Expression," was designed to help students learn about how emotion detection fits in with EI training, the importance of non-verbal communication, and the neuroscience behind non-verbal communication. Drawing on Paul Ekman's work (Ekman, Friesen, O'Sullivan, Chan, Diacoyanni-Tarlatzis, Heider, & Tzavaras, 1987) that centers on the six basic emotions: anger, happiness, surprise, disgust, sadness, and fear. The workshop provided a brief tutorial on the defining characteristics of each of the emotions on a person's face. At the end of the intervention, students were offered individual opportunities to practice their emotion detection skills by identifying different emotions portrayed by a variety of facial expressions.

Mindfulness instruction

Mindfulness practice was introduced to three groups of students. The introduction of the mindfulness practice followed a similar format to the Google Search Inside Yourself program

developed by Chade-Meng Tan (2012). This program has been taught at Google since 2007, is solidly grounded in current scientific knowledge (Brefczynski-Lewis, Lutz, Schaefer, Levinson, & Davidson, 2007; Davidson, Kabat-Zinn, Schumacher, Rosenkranz, Muller, Santorelli, & Sheridan, 2003; Lazar, Kerr, Wasserman, Gray, Greve, Treadway, & Fischl, 2005; Lutz, Greischar, Rawlings, Richard, Davidson, & Singer, 2004; Slagter, Lutz, Greischar, Francis, Nieuwenhuis, Davis, & Davidson, 2007), and uses mindfulness to develop EI by drawing from the fields of neuroscience, cognitive science, and psychology. Several different mindfulness techniques were introduced throughout the semester to all students who received the mindfulness intervention; these were practiced in class during the two scheduled lecture sections per week. In addition, students had an assignment to practice on their own 40 times throughout the semester. Appendix B shows the structure of some of the mindfulness instruction elements that were used.

3. RESEARCH FINDINGS

We sought to answer the following questions:

1. Does direct EI instruction influence students' EI?
2. If so, does the mode of instruction (online vs. face-to-face) have an impact?
3. Does mindfulness training improve the effectiveness of EI instruction as measured by the TEIQue assessments?

TEIQue scores

Variable		Mean	Std. Dev.	Possible scores
Trait EI	Pre-Test	4.92	.59	1-7
	Post-Test	4.76	.62	
Peer EI	Pre-Test	91.17	7.75	0-100
	Post-Test	92.50	6.08	

Table 2: Descriptive Statistics (Cotler, 2016)

Table 2 provides descriptive statistics for the independent variables used in this study, including means and standard deviations. An important issue to note here is that the standard deviations for the Pre and Post EI assessments are low, indicating that there was very little variability in these scores. Furthermore, the high score means indicate that there was a lack of room for improvement. In fact, 68.2% of the self-reported (trait) scores fell between 4.35 and 5.54 out of 7 for the pretest and 68.2% of the scores fell between 4.18 and 5.42 out of 7 for the post test. The peer instruments yielded slightly better results but still have low variability. Here, 68.2% of the pre-test peer scores fell between 83.42 and 98.92, and 68.2% of post-test peer scores fell between 86.42 and 98.58. This is important because the low variability influences the results in Table 2 (Author, 2016).

Eight multiple regressions were run using R; all models were statistically significant according to the f-statistic ($p < .001$). Examining the regressions using the Trait EI measure, the only independent variable that was statistically significant was the pre-test score. When looking at the Peer EI measure, individual independent variables were not statistically significant. However, the combination of online EI interventions plus mindfulness training *was* statistically significant. For example, the following multiple regression formula PeerPost = f2f + online + mind + f2f * mind + online*mind + peerpre, (Table 3) showed that the interaction between the online intervention and mindfulness was statistically significant. This means that while neither the emotional intelligence interventions nor the mindfulness intervention alone were sufficient to have a significant impact, the combination of these two types of instruction may be sufficient to improve students' overall EI. The details of the regression showing this result are in table 3. The independent variables explained 55% of the variance (adjusted R-squared) in the dependent variable.

Variable	Est	Std. Error	t-value	p-value
Peer EI pre-test	.60	.05	12.95	**< .001**
Face-to-face	-.19	1.15	-.16	.87
Online	-.39	1.14	-.34	.73
Mindfulness	-1.40	1.23	-1.13	.26
Face-to-face x mindfulness	1.18	1.71	.69	.50
Online x mindfulness	3.25	1.60	2.05	**.04**
Overall regression statistics Adjusted R-squared: .55 F (6,153) = 33.6, p < .001				

Table 3: Regression Analysis for Research Question #3 (Cotler, 2016)

Interview responses

We interviewed four of the students who received the face-to-face (F2F) EI intervention, nine who received the online EI intervention, and eight who were in the control group. Unsurprisingly, students who received either type of intervention were more likely to report changes in specific EI skills than those who did not receive any intervention. Notably, we saw little differentiation between the face-to-face and online groups. Based on the student reports, face-to-face and

online interventions were equally successful. The interview responses are summarized in Table 4.

	EI intervention type		
	None	F2F	Online
Reported improvement in ability to monitor own emotions	50%	75%	78%
Reported improvement in ability to monitor others' emotions	38%	75%	78%
Reported improvement in ability to empathize with others	25%	75%	100%
Reported improvement in ability to work collaboratively on a team	63%	100%	89%

Table 4: Differences in self-reported changes in aspects of emotional and social intelligence across Factor 1 groups (Cotler, 2016)

Consistent with the regression findings, the students in the online groups that also received the mindfulness training reported a greater increase in emotional intelligence growth when compared with the control. Furthermore, students in the online mindfulness group also reported that the mindfulness practices affected overall growth of emotional intelligence.

When given the opportunity for more open-ended responses, a key theme emerged in all groups and dominated interviews of students in the online group: the impact that team-based learning had on the opportunity for experiential learning. For example, one student reported that "I noticed it [awareness of others] more this semester since I was working with the same group all semester long."

Other themes that were important across the groups focused on the workshops, learning about the Myers-Briggs dimensions, and mindfulness. When asked about improved awareness of others, one participant credited "definitely the online team [EI] workshops we had to do, especially the facial recognition workshop we did." Another student found that the Myers-Briggs workshop was helpful and said, "I think that when we did the Myers-Briggs thing, that was really helpful to visualize the actual differences between different types of people. I thought that was cool." In support of the findings from the regressions, students reported that the mindfulness instruction and practice was helpful in developing emotional intelligence. Specifically, one student was asked how often he noticed and used an improved ability to monitor his emotional state and replied, "After we started doing the meditation, I'd say regularly."

4. DISCUSSION

The purpose of this study was to examine whether a team-based learning environment with a blended approach (i.e., using online instruction to teach emotional intelligence), supported by mindfulness to teach these skills, could make learning about EI accessible and meaningful to undergraduate students. As a follow-up question, it is important to ask whether it is possible to develop programs to teach these skills in a scalable and systematic way that makes it feasible for institutions of higher education to provide such instruction to their students, even if they are unable to develop, test and implement their own programs. While not all findings of this study relate directly to the question of the effectiveness of online learning as a medium for teaching EI, they are still useful to present here because some of these findings show no difference between the online and face-to-face group. As a result, it is reasonable to assume that if emotional intelligence skills can be taught using a face-to-face approach, they can also be taught online.

As previously discussed, with the exception of the mindfulness + online interaction predicting the peer post-score at a significant level, the major regression findings did not show a correlation between the independent variables (EI intervention, mindfulness training, Myers- Briggs dimension, gender, and age) and the measurable EI outcomes. One possible explanation for this was noted earlier: There was very little variability among the test scores of the participants for any of our four measurements, and most of the post-test variance was explained by the pre-test scores. It is possible that in a population with more diverse pre-test scores, a stronger response to the interventions would be observed.

Change typologies (Faerman, 1993) offer another possible explanation. Researchers who study changes in attitudes and behaviors have developed a typology of change that includes three types of change: alpha change, (α), beta change (β) and gamma (γ) change. Alpha change is defined as the true change that occurs. Beta change occurs when respondents' "standard of measurement used to assess a stimulus changes from one testing period to another" (Armenakis, 1988, p. 165). Gamma change occurs when the respondents' "understanding of the criterion being measured changes from one testing period to the next" (Armenakis, 1988, p. 165). When evaluating change, if beta and/or gamma change cannot be shown to be responsible for the change observed, one could argue that alpha change, or real behavioral change, has occurred. The results of this study may have been influenced by gamma (concept redefinition) change. This possibility is supported by interview responses,

where students consistently indicated that they saw changes in themselves, but in ways that also indicated that their understanding of the concept had changed. For example, the following were typical of comments made in the interviews: "It was a big eye opener for me," "Now I have an understanding of where people are coming from," and "I have never done this type of stuff."

Interestingly, interview respondents in the online emotional intelligence treatment group emphasized the team-based learning experience, especially the emotional intelligence workshops. When the activities were taught online, the students found that maintaining the same teams throughout the semester made a difference in what they learned from the workshops. Interviews with students in the online treatment, compared to interviews with students who received the face-to-face treatment, focused more on specific aspects of what was taught in the emotional intelligence online workshops such as awareness of self and others and facial recognition. While students in the face-to-face treatment also discussed team-based learning and the workshops, the primary focus was on the workshops themselves and secondarily on the team-based learning aspect of the class.

Combining what is known from the literature with new insights found in this study, a new model for teaching EI online, the RESET Cycle Model (Recognizing or regulating Emotions through Social and Emotional Team-based learning supported with mindfulness) is offered. The model starts with a face-to-face introduction to team-based learning and mindfulness. As discussed earlier, a Myers-Briggs workshop is presented in a face-to-face setting in order to set the stage for becoming aware of self and others. These face-to-face experiences and exposure to content create a foundation of knowledge that funnels into the RESET Cycle. This cycle moves between the online collaborative workshops that focus on course content and online collaborative EI workshops with the introduction to new mindfulness instruction in between each workshop; the mindfulness instruction is taught face-to-face to promote the continued face-to-face interaction among the students. As evidenced through the study, introducing different types of meditation assists students in seeing what may work for them in their own personal practice. Moving the "classroom" into virtual space in a way that creates a sense of community, collaboration and trust among the students is critical to the design of any online experience (Shea, Li, & Pickett, 2006). One way of achieving this is through a "strong and active presence on the part of the instructor" (Shea et al., 2006, p. 185). In this study, the instructor presence is achieved through the face-to-face component at the beginning of this model in order to set the foundation and then regularly throughout the period of instruction through the mindfulness training. Another benefit of conducting the workshops online is the decrease in the use of class time to teach these critical skills.

5. LIMITATIONS

The results of this study should be viewed in light of issues related to the internal and external validity of the design. Issues of internal validity (ability to attribute causality) include that the mindfulness practices were only taught by one instructor; therefore, this factor cannot be separated from the instructor. As noted earlier, there is also a question about the measurement of change. The interview data suggest evidence of gamma change, i.e., a change in students' understanding of emotional intelligence from the pre- to the post-test. Thus, caution should be taken when making assumptions about students' initial understanding of EI and the changes that they did or did not experience.

Team-based learning was used in all sections of this class as a way to apply what was learned in the emotional intelligence workshops immediately with peers in a cooperative experiential learning environment. This practice presents a limitation to the external validity (ability to generalize to other populations/settings) of this research in that findings may not be generalizable to non-team-based learning settings. Furthermore, a convenience sample of mostly business students at a small liberal arts college presents additional challenges to attempts to generalize results to other, dissimilar, higher educational institutions and groups of students, or to the population at large.

An additional limitation of this study relates to the nature of the data collected for this study. For example, the study examined changes in students' emotional intelligence based on a sample of students who took a course over a four-month time period. This does not allow us to know whether any changes that the students experienced maintained over time. Future longitudinal studies should include long-term change, which can be measured by asking participants to take the EI self-assessment again six months after the study has concluded as well as to answer some targeted survey questions.

Such a survey could include several open-ended questions, which would allow more in-depth responses from all students, not just those students being interviewed. An interesting approach may also include following the students post-graduation to study if the EI training has been useful to them in personally and in their careers.

Finally, in this study the peer assessments were only given to teammates and not to others outside of the course, who may know the participant better. Future studies may include multiple sources of peer evaluation, including, for example, roommates or others with whom the student interacts and who may be able to better assess the students' emotional intelligence, especially in the pre-test.

6. CONCLUSION

The findings from this study, designed primarily to examine whether emotional intelligence could be taught online, offer statistically significant evidence that these skills can be taught using a blended approach and that the mindfulness factor makes a difference in the emotional intelligence growth observed, as measured by the peer assessment scores. The study also showed that team-based learning and the use of the Myers-Briggs instrument were important factors influencing students' perceptions of their personal growth. Furthermore, the overall findings from this study show no difference in growth between the online and face-to-face group.

Although no prior studies could be found that address these specific research questions—i.e., teaching emotional intelligence online supported by mindfulness instruction and a team-based learning environment—literature from related disciplines such as online learning and teaching soft skills online were used as a template to create the RESET Cycle Model for teaching emotional intelligence online. The implications for practice include the importance of using a team-based learning format with a hybrid delivery model because it offers students the opportunity to interact regularly with a consistent group of peers as well as with the instructor of the course. An early opportunity for face-to-face sessions is critical and should include mindfulness instruction and a Myers-Briggs workshop. Following this foundational instruction, the rest of the content can be moved online with the option to either move the mindfulness exercises online or to enhance the presence of the class (peers and instructor) and maintain this aspect of the class face-to-face. Arguably, this model is appropriate in both higher education and organizational settings.

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Appendix A: EI Intervention #1: Myers-Briggs Script

GOAL:
Demonstrate differences between the Myers Briggs dimensions N/S and P/J. The emotions that are highlighted are often the result of the conflicts between these types.

After viewing the video, participants will be asked to individually answer seven questions about what they saw. The questions will ask participants to identify personality dimensions the student actors were portraying as well as the emotions they were exhibiting. After answering the individual questions, students will be asked to discuss the same questions as a team in an asynchronous online format. Students will be asked as a team to discuss methods that the student actors could use for conflict management; and what they could have done to create synergies rather than conflict. The last part of this workshop will be for students to identify characteristics they witnessed in the video within themselves and other experiences they have had. The computer-mediated delivery will use Blackboard's learning modules, will be self-contained within the module and copied into the course sections of the two classes involved with the online interventions.

Introduction of characters:
(This information is not provided to the students.)
Katie portrays an ESFJ (12.3% of US population) — *The caregiver*
She is a senior marketing major. She is categorized as having an ESFJ personality type and deals with things according to how she feels about them or how they fit in with her personal value system. She has a strong desire to be liked and for everything to be pleasant and is highly supportive of others. ESFJ has a special gift for making people feel good about themselves. She takes her responsibilities very seriously and is very dependable. She has well-formed ideas about the way things should be and is not shy about expressing her opinions.

Lauren portrays an INTP (3.3% of US population) — *The thinker*
Lauren is a senior accounting major. She is categorized as having an INTP personality type. INTPs live in the world of theoretical possibilities. INTPs do not like to lead or control people. Lauren is generally very independent, unconventional, and original. She is at her best when she can work independently.

Video transcript:
Katie (ESFJ): Okay, how should we start? I don't even know how we are going to do this. It's so vague. What's our first step? [Frustration]
Lauren (INTP): Well, I know it is confusing [Compassion]. I have a friend who graduated like three years ago and she used WebEx at her work recently so I know that it is useful and I think it is always important to try new things.
[As an N, she is seeing the big picture of why this assignment may be helpful in the future]
Katie (ESFJ): Umm, Yeah I guess. I just don't understand how helpful this is going to be for us. We are going to make a presentation and then not present it, that makes zero sense and its going to take so long. Umm, and she never gave us specific instructions as to how we are supposed to go about doing this. She just said, "Alright, here's the project good luck."
Lauren (INTP): Well I take 18 credits, so it is crazy… I never know when I will be free.
[P doesn't want to schedule and would prefer to work independently.]
Katie (ESFJ): Yeah I work a lot but we should definitely try to schedule a time to meet in Google docs. I am free Fridays around two o'clock and if you are that would probably work fine for me. [as a J, she wants to get things scheduled]
Lauren (INTP): Oh, I think it would be better if we did pre-decided parts instead. I have no idea what I am going to be doing on Friday, it's Wednesday.
Katie (ESFJ): personally, I would like to meet in Google presentations as well and you can just send me a text whenever you are free and if I am near a computer I can just log on, its not a big deal.
[J, really wants to schedule and her frustration is growing.]
Lauren (INTP): Sure, no problem.
Katie (ESFJ): Can we at least, you said you want to do your part so let's decide what parts you want to do and that way we can get started.
(J, wants to get started and not wait until the last minute).

Lauren (INTP): Okay, I think this project has a lot of possibilities. We can automate the presentation it so it is colorful and fun to watch and maybe link to a movie or some websites about cultural issues we need to consider.
[N]
Katie (ESFJ): That's great idea but I think we need to get down our main part of the presentation with the content before we start adding these colors and videos and stuff
[S] What are the facts/steps we need to address?
Lauren (INTP): Humm, well we will need to know who is going to submit it and we need to address accessibility concerns. I still like the idea of linking to a website or video, and make it really cool.
Katie (ESFJ): Yeah sure, umm I know for the presentation we need 10 – 12 slides total. We can just assign 3 slides to each person. Have them make it and then meet on the Google docs once everyone is done with that and share comments and say what we think about each and try to improve it since we will all get the same grade.
Lauren (INTP): Okay, I will start looking at how to create the links and other cool things we can do with Google presentations to make it a great presentation.
Katie (ESFJ): Okay so how about you just text me when you are ready to meet?
Lauren (INTP): [Looking away] Yeah, sure.

Appendix B: Abbreviated schedule of mindfulness intervention

The mindfulness intervention began with a video interview with Dan Harris (https://www.youtube.com/watch?v=FAcTIrA2Qhk). Week 1 – 3 of the schedule is outlined below.

Week One	**Easy/Easier way** "The easy way is bringing gentle and consistent attention to the breath for two minutes. Start by becoming aware that you are breathing, and then pay attention to the process of breathing. Every time your attention wanders ways, just bring it back very gently." (Tan, 2012, p.26) Tan (2012, pp. 26-27) describes the easier way as sitting "without an agenda for two minutes. Idea is to shift from "doing" to "being" whatever that means to you, for just two minutes. Just be."
Week Two	**Introduction to breath awareness** **Mindfulness meditation** was read to the students during this week. "Let us begin by sitting comfortably. Sit in a position that enables you to be both relaxed and alert at the same time, whatever that means to you. Let us take three slow breaths to inject energy and relaxation into our practice. Now, let us breathe naturally and bring a very gentle attention to the breath. You can either bring attention to the nostrils, the abdomen, or the entire body of breath, whatever that means to you. Become aware of the in breath, out breath, and the space in between. [Short pause] If you like, you can think of this exercise as resting the mind on the breath. You can visualize the breath to be a resting place, or a cushion, and let the mind rest on it, very gently. Just be. [long pause] If at any time you feel distracted by a sensation, thought, or sound, just acknowledge it, experience it, and very gently let it go. Bring your attention gently back to the breathing. [long pause]" (Tan, 2012, pp. 45-46).
Week Three	**Mindful listening (monologue) using behavioral interview questions.** Students were asked to break into pairs (A & B). Student A was asked to begin by answering a behavioral interview question, Student B was told to give student A his/her full attention. Student B was told that he/she could acknowledge by nodding and with facial expressions but no speech. After two minutes, the students switched with a new behavioral interview question. (Adapted from Tan, 2012, pp. 62 – 63)