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INTEGRATING LEADERSHIP CONTENT AND COMMUNICATION SKILLS FOR FUTURE INFORMATION SYSTEMS LEADERS

Abstract

Interest in leadership research began in early 20th century; yet the definition of leadership has been blurred, and contested. This is evident in countless leadership theoretical perspectives, models and frameworks that have been emerging and which make it challenging for aspiring leaders to learn and develop especially in this volatile age. Higher institutions to future proof their undergraduates, have responded to this critical need, by offering either specialized leadership content or leadership communication courses, or focusing more on one discipline than the other. However, a more holistic approach, underpinned by ~~behaviorist and~~ constructivist theories of teaching and learning, that prepares leaders for these turbulent times is urgently needed. This teaching experience discusses the evolution, process and impact of a collaborative effort between two disciplines, Information Systems (IS) leadership content and IS leadership communication skills. University administered anonymous qualitative and quantitative post module evaluation reports show that while some students see the relevance and transference of leadership knowledge and skills to other domains, others do not see the need to learn ~~about~~ these skills before they begin their professional careers. These findings offer valuable potholes to avoid and insights for future leadership training efforts.

Introduction

The roles of Information Technology (IT) and Information Systems (IS) leaders are more ubiquitous now than before as disruptions are raging and affecting almost every business sector globally. These are the types of leaders who helm companies and organizations with titles like Chief Technology Officer (CTO), Chief Information Officer (CIO), Digital Transformation Officer, or Chief Transformation Officer. According to Dan Telling from MyBench, "responding to the challenge posed by disruption is a problem that every industry is facing. And in more cases than not, it is the CTO's responsibility" (Ismail, 2018). To keep up with these fast-changing times, IT/ IS leaders have to evolve constantly and continue assuming diverse roles. These leadership roles require cross-functional skills such as relevant knowledge of organizations across functions and operations, as well as effective leadership communication skills to forge relationships and integrate technology within and beyond organizations (Applegate & Elam,1992; Cross, Earl and Sampler,1997; CSC,1996; Stephens,1993). Karahanna and Watson (2006) add that as IT/IS leaders' evolving roles permeate organizational boundaries, practices, and processes; there is also a growing need for them to assume strategic and pervasive positions such as leading digital transformation, handling

disruptions, and mitigating risks in organizations. According to Kevin Yapp, former Chief Strategy and Marketing Officer at Premier Farnell, these leaders "used to be on the outside looking in," but with their emerging need in companies, the challenge now is for these leaders to "make meaningful change from the inside that makes everyone feel included" (Digital Leadership, 2015). ~~The~~ ability to do this seems to require soft skills, of which communication is critical. Additionally, being a "customer champion" or having the ability to function as the "conduit between customers and the business" has also been recently added to these leaders' portfolios (Ismail, 2017). In short, IT/IS leaders need a fine balancing act of "cross-functional expertise in the technologies, processes, and people skills to evangelize change and drive results" (Parks, 2018).

Problem

While these leaders seem to have performed well in technical aspects (e.g., operations, infrastructure and architectural development, demonstrating a sound grasp of domain knowledge, etc.), they are rated below average in business criteria such as management, change and people management, which are all areas that necessitate leadership communication skills (Westerman & Weil, 2004). ~~Similarly,~~ Sanz (2009) agrees that these leaders are outliers who seem to lack effective leadership communication skills to influence, garner support from managers, or be sensitive in how they transmit their ideas in disruptive times. In a recent study, out of five characteristics that differentiate IT/IS leaders from other senior executives, social adeptness or the ability to communicate compellingly appears to be their second-lowest skill (Digital Leadership, 2015). As an integral component of leadership, communication has been grounded in various studies (Fairhurst & Connaughton, 2014; Mast and Huck, 2008; Tourish, 2014). As agents of change and disruption, IT/IS leaders seem to be in a dire need to equip themselves with two-way communication dealings both within and across organizations.

Purpose

With this background, this paper's focus is directed at IT/IS leadership educators ~~in higher education~~, who are responsible for nurturing, grooming, and future-proofing their learners for the dynamic and pervasive roles they will assume when they join the workforce. ~~After all,~~ higher education institutions provide leadership programs to future-proof their students (Astin & Astin, 2000; Diallo & Gerhardt, 2017)~~.~~ ~~Furthermore,~~ it will be helpful to study if more can be done, especially in this critical field of IT/IS. In this vein, the purpose of this paper is to provide an overview of a new leadership education programme that integrates leadership communication skills with leadership domain IT/IS content, from its inception to two semesters after it was rolled out. ~~The study serves as a guide to those in the field of IT/IS leadership education and those who plan to chart future leadership education programmes in which communication is integrated.~~

Integrated leadership education

Groundwork

Responding to the growing trends in the field of IT/IS leadership, ~~this teaching study aims to share~~ a unique embedded leadership education module called Information Systems Leadership and Communication that integrates communication skills with IS domain teaching. The integration was commissioned by the IS Department ~~of~~ the School of Computing (SoC) ~~at the National University of Singapore~~. The module aims to offer ~~a~~ compulsory leadership education ~~module that bridges~~ the gap between IT/IS leadership content and leadership communication skills to future-proof its prospective graduates for future leadership technology positions. The Centre for English

Language Communication (CELC) at this same University was approached to assist in this leadership education programme's oral communication component. Using transformative leadership as a construct, core leadership oral communication skills that prospective IT/IS leaders might benefit from were identified by CELC and presented to SoC. Once these core leadership communication skills were ~~agreed upon~~, the collaborative journey between the host ~~faculty~~ and CELC began.

~~Aims of study.~~ ~~Written largely from the communication perspective, this study aims to shed light on~~ four areas of this collaborative journey from its inception to the first two semesters after it was rolled out. These areas are 1. process of module development, 2. students' feedback ~~about this module, 3~~. discussion of feedback results and challenges faced in designing and delivering this module, and 4. implications and recommendations for future research.

Module development journey. Information Systems Leadership and Communication is a compulsory module taught over twelve weeks (i.e., one semester) and is offered to second to fourth-year undergraduates from the School of Computing majoring in information systems, information security, and business analytics. To ensure that students cope with slightly more nuanced aspects of leadership communication skills in this module, only those who successfully complete introductory English language communication modules such as ~~IS2101~~ Business and Technical Information and ~~CS2101~~ Effective Communication for Computing Professionals are allowed to be enrolled. Only five students were enrolled in semester one; due to administrative movements and 27 in semester two. The latter group was split into two groups in the recitation sessions for the communication component.

Reflecting the need for future leaders to have leadership content and communication skills, SoC developed an integrated model, as seen in Figure 1 below. At its core, it was believed that by the end of the module, students would learn relevant IS leadership content to execute technical aspects of their future leadership roles and core leadership communication skills to communicate and ~~foster~~ partnerships between technology and business

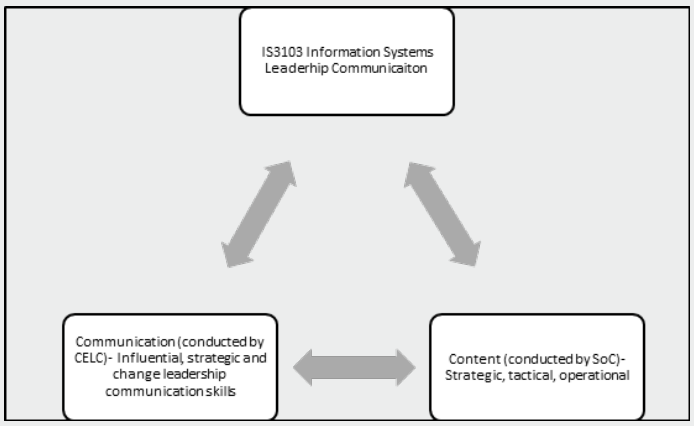

Figure 1. Integrated IS3103 leadership education module

SoC took charge of delivering lessons on leadership content while CELC took charge of leadership communication skills. It should be noted, however, that both departments' focus is set in IT/IS contexts. In the content aspect (i.e., adapted from IS3103 Information Systems Leadership and Communication course objectives, 2017), three main areas are included. These are strategic, tactical, and operational. The learning outcomes are to raise students' awareness of business fundamentals, recognize key drivers of innovation, and observe IT changes in organizations. For example, the strategic aspect exposed students to disruptive technology, IT ecosystems, and multifaceted issues subsumed within these contexts, necessitating efficient IS leadership. Within the tactical facet, students learned ways to strategize organisational culture, create value, and develop technological innovations. In the operational aspect, students discover IT portfolio management, change management, and IT applications. In short, students learn that to drive IT-enabled changes in organisations, intricate connections between technology and business cannot be ignored. To ensure that students know how to develop this partnership between technology and business stakeholders (e.g., vendors, IT professionals, and functional users), industry-relevant oral communication skillsets are offered by CELC. With foundational business and technical communication skills gleaned from preparatory communication modules, the focus in this module shifts to the process of leadership communication where one is "able to influence a group of individuals to achieve a certain goal" (Northouse, 2007, p.3). Students are taught three strands of interdependent oral leadership communication skills to realize this goal. Students learn about influential communication in the first six weeks. Storytelling, an important skill set for leaders (Auvinen, Aaltio, & Blomqvist, 2013), is taught and learned, as well as Aristotle's influential rhetorical devices. Strategic communication skills are taught in the next three weeks and include methods to communicate directions and vision concisely and coherently. Students learn about change communication in the last two weeks, and here the focus is on communicative methods to persuade, minimize resistance, and maximize buy-in efforts in change scenarios in organizations. While these strands do not comprise an exhaustive list of leadership communication skills, they represent core leadership communication skills that IT/IS leaders specifically need.

Materials were separately designed for the content and communication components due to the two departments' specialized backgrounds. The two departments arranged several open discussions and agreements to ensure that each was cognizant of the other department's focus and scope. It was agreed that ad hoc references would be made during each respective lesson as to how the content component fit into the communication component and vice versa.

The module weighs four module credits and is based on 100% continual assessments. Only the shared group case story assignment was co-marked by both departments, as seen in Table 1 below.

Teaching-learning hours for the communication and content aspects were negotiated between SoC and CELC. More hours were allocated to conduct leadership communication lessons, and this decision seems to synchronise with the aforementioned findings that IT/IS leaders needed to hone their leadership communication skills. This module's workload was estimated to be ten hours per week, with students having to attend weekly, two-hour lectures, one-hour tutorials (only from weeks 6-9 of the semester) for the content component, and weekly three-hour recitations for the communication component. Apart from these face to face contact hours, self-regulated learning was estimated to be two hours for assignments and two hours for preparatory work for tutorials and recitations. These are shown in Table 2 below.

Table 1
Module assignments weighting

	Content component	Communication component
Assignments (100% continual assessment)	Participation (30%)	3 assignments on influential, change and strategic communication (10% x 3 = 30%)
	Group Case Study (40%, 20% is for written content and 20% for oral presentation)	

Table 2
Weekly total of teaching learning hours

		Workload	Hours per week
Estimated workload hours per week	Content (face-to-face)	Lecture	2
		Tutorial	1 (from weeks 3- 9 only)
	Communication (face-to-face)	Recitation	3
	Independent learning	Assignments	2
		Preparation work	2
Total hours per week			10 hours

Pedagogical Methods

"Education is not an affair of telling and being told, but an active and constructive process." John Dewey

Connections between teacher beliefs and teaching practices resonate with scholars (Richards, 1996; Shulman, 1987). In this study, the communication facilitator cum coordinator's beliefs about teaching and learning are influenced by ~~the~~ constructivism approach, articulated by John Dewey, Piaget, and Vygotsky. With a strong emphasis on an active learner-centred teaching style, a constructivist approach also focuses on cooperative learning, questioning, and real-world problem-solving activities. These help students become more engaged, which is believed to enable them to create more knowledge and construct their own world views. Using this overarching belief in constructivism, ~~they~~ relied on other guiding principles of constructivist thinking and what a constructivist classroom should be like. These include the following: 1. Materials should be from primary and authentic sources and contexts. 2. Assessments should include a variety of learners' views. 3. Focus should be on the process and product of learning. 4. The facilitator plays a vital role in fostering a sense of community in the classroom (Lave and Wenger, 1998). ~~Learners need to feel safe to voice their opinions, question their thoughts, and reflect. 5. Some of Bruner's framework for classroom instruction should be addressed in the classroom, and these consist of knowing learners' predisposition towards learning and structuring knowledge in a simplified way. The subsequent sections will illustrate how these constructivist beliefs and principles took place in the leadership communication classroom.~~

To begin with, the facilitator tried to understand students' pre-existing conceptions. As the module rolled out, informal, in-class oral discussions were held in the first week. A small group size of only five students in semester one and 27 in semester two made this task manageable. Initial findings revealed that three out of five students from semester one perceived the module as useful, and 20 students ~~our~~ of 27 in semester two had similar dispositions. The

remaining students' dispositions in both the semesters were not entirely encouraging. Unfavorable dispositions were centered on 1. displeasure with long contact hours, 2. inability to see the module as one whole unit, 3. questions on the relevance of the module to their current roles as students, 4. disdain for oral communication skills (given their hard domain backgrounds where they are busy coding, working with their electronic devices and with little need to communicate verbally with one another). Negative predispositions have been found to translate as barriers to leadership learning (Oberg and Andenoto, 2019), and these findings further ascertained the need to use constructivist methods of teaching and learning to engage learners to be more open about leadership education.

The communication component of the module, with its three strands of communication skills, was underpinned by Fiarhurst and Grant's (2014) social construction of leadership communication, transformational leadership (Burns, 1978), and Northouse's (2007) focus on influential skills. These approaches have a common emphasis on co-construction of meaning, interaction, collaborations, negotiation skills, team working skills, context, and audience needs, ~~which serve the dual purpose of a constructivist teaching and learning style and for the IT/IS learners' needs.~~ Typical lessons consisted of a variety of activities, as seen in Table 3 below.

Table 3
Three strands of leadership communication skills

Communication skills sets for leaders	Assignment	Activities
Influential Communication	Assume IT/IS leadership position and present technical information to a non-technical audience using influential communication skills.	Use appropriate influential, motivational, storytelling, and rhetoric strategies (such as Aristotle's ethos, pathos, and logos) in case study scenarios
Strategic Communication	Assume IT/IS leadership positions and present strategic news to varied audience groups.	Express clarity and conciseness in scenarios such as giving directives and instructions Present new directions and vision for the company
Change Management Communication	Assume IT/IS leadership position. Choose IT/IS change scenario and communicate change to non-technical/mixed audience groups.	Communicate bad news Resolve conflicts Manage differences Negotiate with stakeholders like vendors, fellow professionals, and functional users Achieve buy-in Communicate urgency

These communication scenarios consisted of students having to move around, interact, reformulate, relook at the way they viewed leadership communication, and continuously provide feedback to one another.

The facilitator scaffolded the students' knowledge about leadership through mini interactive lectures occasionally after class discussions. To a large extent, students owned what they learned since they created knowledge for themselves. The learning process also required them to make connections and associations by relating or applying what they learned in the content section to their earlier communication modules and other life experiences. All these methods meant that students had to be constantly on their toes and to interact. Additionally, workplace simulations (Herrington & Herrington, 2006; Ismail & Sabapathy, 2016; Lindblom-Ylanne, 1999; Trigwell & Prosser, 1991) were used for formative assignments that took these activities to the next level. This also seemed to be an apt option in leadership development efforts (Wedig, 2010). Students had to assume IT/IS leadership roles to solve wicked, ill-defined problems (Camillus, 2008). These problems were interwoven with volatile, uncertain, complex, and ambiguous (VUCA) contexts and communication issues. For example, in teams, students had to deliver an oral presentation for their change communication assignment. They had to assume senior leadership positions in an organization and achieve buy-in from a mixed audience (e.g., they were allowed to choose from senior management, executive committee, functional users, etc.) to adopt technical or business changes using influential, strategic, and change communication skills. Students' awareness of the assessment rubric was raised to determine that they communicated successfully as leaders. Positive elements of VUCA or what is known as VUCA PRIME (i.e., a term coined by Bob Johansen, 2007, a distinguished fellow at the Institute for the Future) which stands for vision, understanding, clarity of message and agility (i.e., the ability to respond to feedback and questions from the audience) was used. Students were allowed to create a wicked context. The context had to entail a combination of bad news, a need to resolve conflicts, manage differences, and negotiation with stakeholders, fellow professionals, and functional users. Students also had to communicate the urgency of complex problems within organizations and account for cultural complexities. They could use real case scenarios from their content classes and make minor changes to them. Students had consultation sessions with the facilitator to discuss their plans before the actual presentation. On the actual day of the presentation, before each group presented, the audience was reminded to assume the targeted audience roles, ask questions, and raise concerns after the team's presentation. Informal reflection exercises were inserted, but not examined, after each assessment to check if the students could manage the task and display the three strands of influential, strategic, and change communication skills.

Like her learners, the facilitator played an active role during lessons. Her roles included guiding, motivating, and probing her students to think deeper and connect the dots between communication and leadership. Constructivist teaching and learning require a lot of energy and mental alertness. From a communication perspective, the facilitator had her fair share of "low energy" days. There were times when students were passive and fatigued. Ad hoc tasks that IT/IS leaders had to manage alongside their primary duties (e.g., heading meetings, introducing new staff, providing feedback to peers' plans and suggestions, carrying out small talk, etc.) were factored into lessons to perk them up as well as to enhance their participation and interaction. These tasks were not reflected in the course outline and were used as intervention strategies. What also worked in "low energy" moments were motivational strategies like encouragement, questioning, empathizing, understanding, and simplifying tasks into manageable chunks. Additionally, changing group dynamics worked as well, and this strategy ensured that discussions were optimal for everyone in the class.

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In the content section (i.e., adapted from content on IS3103 found in the learning management system), IS leadership content topics were delivered via mass facilitator-led lectures for two hours for twelve weeks. One-hour tutorials were conducted in smaller groups (e.g., one group in semester one and two groups in semester 2) from weeks 3-9. Experiential pedagogical methods that required interaction and strategic thinking skills were used in tutorials. For instance, students analysed key concepts ~~covered in the content lectures~~ to solve real-case scenarios. For the case story assignment, students assumed IT leadership roles in a chosen company, identified internal problems, proposed a system change, and wrote a 5000-word case story for ~~top~~ management. A follow up to this written assignment was an oral presentation using influential, strategic, and change communication skills.

Post module feedback findings

Standardised university administered, anonymous qualitative and quantitative module feedback evaluation reports for the first two semesters were used to analyse students' feedback about the module. The unsolicited feedback was for the module as a whole, for both it's content and communication ~~aspects~~ which was administered towards the end of the module during weeks eleven to twelve. Students were not compelled to take the feedback questionnaire. Three questions with quantitative quality/frequency options on 1. students' overall opinion of the module, 2. expected grade for the module, and 3. difficulty level of the module is used in this study. These are followed by two free text sections on what they liked and disliked about the module.

From a communicative perspective, it would have been helpful if the author had also used her own evaluation instruments to supplement the one initiated by the university, especially to study the communication aspect of the module. Despite this limitation, the overall unsolicited results yield some useful insights about the module and some on the communication aspect ~~that can be used for further research on leadership development efforts.~~

Overall, the response rate was positive and better in semester one with 100% (n=5) and 81% (n=22) out of 27 responses in semester two.

Students' opinion of the module was generally more encouraging in semester one than in semester two, as seen in Figure 2 two below.

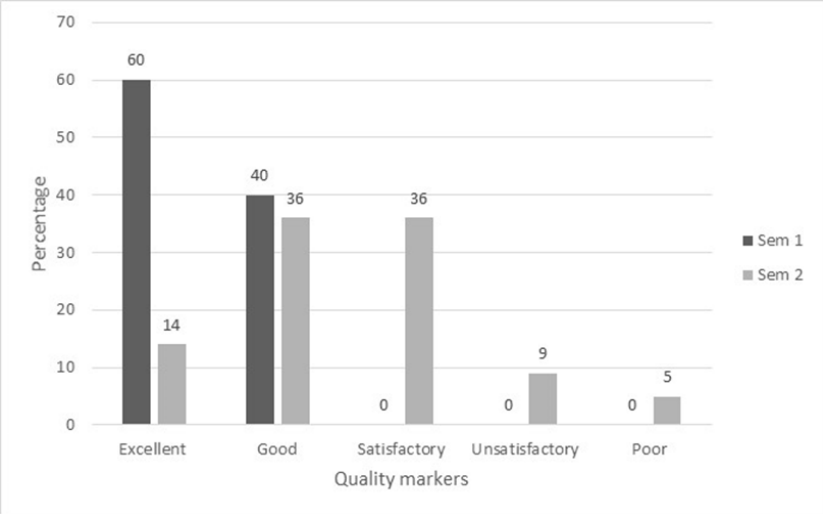

Figure 2. Overall opinion of the module

Semester one students responded more positively, with 60% expressing that the module is excellent and 40% expressing the module as good. All five students seem to have had favorable opinions about the module. With a response count of five, the mean average for this question was 4.6, and the standard deviation was 0.5. In semester two, as compared to semester one, only 50% of the participants found the module to be in the excellent to good range. A substantial 36% found the module satisfactory, and a small but significant percentage of 14% found the module unsatisfactory and inadequate. With a response count of 22, the mean average was 3.5, and the standard deviation was 1.0. ~~While the module seems to have been more positively received in semester one, at least half of the cohort in semester two did not have favorable opinions about the module. When the mean average for their overall opinion of the module for each semester was juxtaposed with other modules that were offered by the IS department and the SoC faculty, as seen in Table 4, IS3103 was rated highest among the rest (i.e., 4.6 out of 5) in semester one. However, the ratings plummeted to the lowest of 3.5 in semester 2.~~

Table 4
Overall opinion ratings for IS3103 module compared to IS department and SOC faculty modules

Question	Module Average (IS3103)		Other modules Average offered by IS and Analytics Department		Modules Average offered by SoC Faculty Average		IS and Analytics Department Average by Activity and Level (Lecture Level 3000)		SoC Faculty Average by Activity and Level (3000)	
What is your overall opinion of the module?	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
	4.6	3.5	3.7	3.8	3.8	3.9	3.6	3.8	3.6	3.8

In semester one, when students were asked to rate their expected grades for the module, 60% predicted attaining a top grade of A, while 40% believed they would achieve a B grade. As for their perceived difficulty level, 60% rated this module as difficult, while the remaining 40% found the difficulty level to be average. Although students seemed to have found the module to be in the difficult-to-average range, the overall group projected themselves as performing relatively well in the module. However, in semester two, only 30% anticipated attaining an A grade, more than half or 65% expected a B grade, and 5% expected a C grade. The module's perceived difficulty level was slightly more spread out, with 14% finding it extremely difficult, 32% as difficult, and the remaining finding it to be in the average range. In semester two, students seemed to have not only found the module to be more difficult than those in semester one, but they also perceived themselves as not performing as well as their ~~counterparts~~ in semester one.

While students' perceived level of difficulty and expected grades may somewhat explain the module's polarized opinions, qualitative comments on what they liked and disliked about the module seem to provide further insights.

In semester one, qualitative comments on what students liked about the module were categorized into three broad themes, as seen in Table ~~5.~~

Table 5
What students liked about the module

Categories	Semester one feedback on what students liked about the module	Semester two feedback on students they liked about the module
New/better understanding of IT/IS leadership field	Before I take the module, I don't have much knowledge about the IT industry and leading structures. We got exposed to many different leadership styles and communication methods in the industry. Able to understand the pros and cons of different leadership styles.	Able to learn more about the different roles in organisations and how job scope change as business strategies change As someone without a lot of knowledge about leaders and their communication styles, I feel that knowing these points at least ensures that we are in touch with such ideas and perspectives. useful
Thinking and communication skills	This module has greatly enhanced my critical thinking abilities, leadership skills, as well as communication skills	Prompt you to think
Usefulness and/or transference of skills/knowledge to other domains	Nil	I learned a lot of new things about communication and leadership where some may be applicable for me next time Many things taught in the module became applicable, and I could see how I could use many of these concepts in real situations. The content taught in lectures is very useful and can be applied in our project report.

These include a better understanding of the IT/IS leadership field, enhanced thinking and communication skills, and usefulness and transference of skills/knowledge to other domains. Specifically, comments were centered on how the module raised their awareness about leadership, communication, and critical thinking skills. It should be noted that although the communication aspect of the module was not specifically solicited in this free text section, it surfaced more than once as an aspect that the students liked ~~about~~ in the module. Besides these positive comments, the module's relevance and applicability to other projects and "real life" surfaced in semester two. These positive comments about ~~the~~ transference of skills seem to resonate with the idea that learning occurs when students see how knowledge learned can be transferred to other domains (Lindblom-Ylanne, 1999; Ismail & Sabapathy, 2016; McKim, Sorensen, & Velez, 2015; Trigwell & Prosser, 1991).

As to what they disliked about the module, Table ~~6~~ shows only one comment in semester one, on "too much workload" compared to the much harsher comments in semester two. These qualitative comments were categorized into four common aspects: long hours, unreal/ impractical to real life, lack of integration between content and communication aspects, and leadership content.

Table 6
What students disliked about the module

Categories	Semester one feedback on what they did not like about the module	Semester two feedback on what they did not like about the module
Long contact hours	Rather heavy on time commitment. Too much workload for a 4MC.	Heavy workload Felt like taking two modules Contact time- 6 hours is quite heavy Have to spend time outside of lessons to prepare for assignments, tutorials, and our project.
Unreal / not practical to real life	Nil	Leadership should be acquired from real working places, not from a lecture. Not real enough Things will change a lot by the time we become CIO for big companies
Lack of integration between content and communication aspects	Nil	Not able to see the link between two portions of the module Having difficulty applying the content with the communication portion
Leadership content	Nil	Lecture, learn all those theories ...very boring A lot of content that can be quite dry I can't see how the items taught during the lecture can help me in my career growth

Discussion of results

Though limited, student feedback results provide information on the extent to which the module resonated with the students and if it served its purpose of future-proofing ~~them~~ with adequate leadership cum communication skills.

~~It was heartening to find that~~ some students saw value in taking the module. ~~General sentiments were~~ that the module, 1. "prompt them to think," 2. "enhanced their critical thinking abilities, leadership skills, and communication skills," 3. raised their awareness of IT/IS leadership, 4. and awareness about the role of communication in leadership. Additionally, semester two students could see the module's relevance to other domains in their lives. In semester one, more positive comments than negative comments and higher opinion ratings for the module could have surfaced due to only five students' making up the class size. This classroom setting also afforded more time to interact. Tutor-student interaction has also been acknowledged to yield satisfaction and academic accomplishments (Cotton & Wilson, 2006). In this case, these interactions also served as avenues to clarify and make students see the relevance of learning about leadership skills. In semester two, however, with almost double the class size and with lesser time, the aforementioned strategies could not be completely operationalized, and these ~~seem to have~~ caused an adverse effect on the student's perception of the module. It should also be noted that pre-class observations showed that more students in semester two than in semester one were not favorable about the module, and this could be another contributing factor to their adverse opinions of the module.

Another important point to note is that central to the integrated approach was the assumption that students would automatically see the integration between leadership content and communication skills, and they would automatically acquire ~~the~~ essentials from both domains. However, what

seems to have been fundamentally overlooked was the whole notion of integration, which could have been elusive from a learners' point of view. The model's perceived view as two distinct silo units with their own associated difficulty level could have been the result of the lessons being delivered by two different departments, facilitators, materials, venues and were given with differing teaching styles and expectations. These multi-layered "dualities" could have contributed to students finding it difficult to see the module as one integrated unit about leadership education. It could also be due to the fact that both the coordinators were not entirely cognizant of what was being taught in the other component. This could have impeded their efforts to make more concrete connections for learners who would have needed that extra guidance.

On the other hand, it could be argued that to see the integration depends on the learners' readiness and willingness to learn about leadership. Learners come to lessons with their own beliefs and attitudes, and not knowing these can shatter the best teaching efforts one can have. Although pre-class observations were carried out, this was done in the communication section informally. Perhaps a more systematic approach using concise research instruments could have been undertaken to learn more about the learners before the module was rolled out.

From a communicative perspective, constructivism is an alluring pedagogical belief, but it entails collective effort, and it comes with its fair share of challenges. Passive learners did not seem to react favorably to the wicked problems and the need to continually engage, formulate their own questions, filter and relook at things, and think deeply. Others found it difficult to connect the dots, to see the link between leadership content and communication skills, and could have been harsh with their remarks. Some learners could have also despised this method as it involves lots of communication, which was gathered as one of their pre-conceived beliefs. These could also be the surface learners that Biggs (1994) identified. Unlike strategic and deep learners, with their preconceived misconceptions about the module, they could have built a barrier to learn, found it challenging to learn, or refused to delve further to make connections about what they learned. Vygotsky defined the "zone of proximal learning" that occurs with guidance from the teacher or while in collaboration with peers. Those who provided more positive comments reached that level and rated the module more positively than those who did not like the idea of moving out of their comfort zones. Given their hard domain background, it is also not clear if they would instead put in more effort in core content modules than a leadership module with a communication component in it. Attempts to use a simulated environment to "practice" workplace leadership were also challenging. It was not the same as being out in the real world and experiencing real leadership roles with their inherent challenges and complexities. Related to this point is that not all the students could relate or assume top IT/IS leadership roles such as CTO and CIOs while they are still in an academic setting. Some candidly expressed in the qualitative comments that not all of them will ultimately reach these high leadership roles, and a few shared that fast-changing times will render what they learn to be obsolete by the time they enter the working world. While these comments hold some truth, that perhaps advancing to these high positions was an unrealistic aspect of the course design, to a small extent, it seems to suggest that these students had yet to "develop their professional identities" (Leupold, 2019) and hence they could not see the relevance of what they were taught as applicable in their career growth.

On the note of module design, while IT/IS leaders are catalyzing change and the need to forge relationships in and across organizations, there is a dearth of scholarship on specific leadership cum communication skills that these types of leaders will need. Interest in general leadership communication has generated scholarship ranging from scientific journals to guidebooks on leadership communication fundamentals (Mast and Huck, 2008). Still, most of these studies do not provide customized solutions for specific target groups like IT/IS future leaders. These have repercussions for academics who try to have

the learners' best interests at heart when designing such modules but lack the depth of knowledge and industry skills. This has an impact on module design and how learners perceive the module.

Designing an integrated module can also be challenging if collaborators come from distinct backgrounds with little or no knowledge of each other's domain fields. For instance, having to be cognizant of the content section of IT/IS leadership made the communication coordinator feel as if she was in the early stages of Kugel's (1993) framework where she found herself worrying about mastering materials, if they were adequate, and if they were appropriate. She also reflected on the three domains of knowledge highlighted by Shulman (1987) and Broome (2001), especially on having a deep understanding of content. These can be a barrier to learning when some learners need more explicit scaffolding strategies than others, affecting their perceived opinions of the module. Practitioners with real corporate experience ~~will probably~~ bring more to the same teaching and learning setting. However, although practitioners can present course content and industry-specific issues in an authentic manner (Cardwell, Ellis, & Phelps, 2016), it is unclear if they have the pedagogical skills that academics ~~would~~ possess.

Finally, long hours and ~~the~~ heavy workload was a common grievance among students. This seems understandable as contact sessions were ten hours ~~most~~ weeks. Additionally, preparing for two components could have also ~~given them the impression~~ that they were preparing for more than they would for other modules. All these could have contributed to fatigue and perhaps impeded their ability to think deeply. As a result, and especially in semester two, this could have also caused them to view the module as challenging to learn and difficult to perform well.

Summary of results

Feedback about the module highlighted some highpoints and low points ~~of the module~~. While, to some extent, it added some value to a few learners, the low points also seem to suggest gaps in module design and learner resistance. These low points seem to provide some answers as to why leadership education offerings could be challenging and not always successful in academia (Knowles, O' Dowd, Hewett, Schafer & Wilkinson, 2012; Gabel, 2014). This experience is also a critical reminder to similar leadership education efforts that, like many skills, leadership has to be learned first-hand. What is known in academia does not cover the intricacies and challenges of leadership in real working life (Conger, 2013). It is undeniable that the classroom experience can only do so much to help students transfer and apply leadership skills to leadership challenges faced in real life, but ~~that~~ should not deter efforts to offer such courses that ~~could~~ raise their awareness about the field.

Lessons learned and future plans

Feedback and the overall experience provided vital evidence to reflect and reform. Informed by Hunt and Chalmers' (2012), "Learning centered approach in university teaching," some learning points were summarized as seen in Table ~~7~~.

A model containing five interdependent elements of communication and content aspects of leadership education was designed to operationalize these ideas, as shown in Figure 3.

Table 7
Reflection on module feedback

Based on module feedback, areas that need to be improved in IS3103	Suggestions put forward to IS programme head and co-coordinator	Desirable outcomes
1. Heavy workload. 2. Long contact hours. 3. Difficulty to frame leadership knowledge and skills to succeed and that it is rooted in professionalism. 4. Difficulty to relate to top leadership and content on CIOs. 5. Challenging to see integration between leadership content and communication aspects. 6. No systematic study of module.	1. Reduce workload and contact hours. 2. Study students' preconceptions on leadership. 3. Involve industry alumni to give talks and share data on the need for leadership knowledge and skills. 4. Use a bottom-up approach to leadership education so that students can relate to content. 5. Create integrated course schedule, which clearly shows how each component complements the other. 6. Study if module offers value, meets objectives. 7. Have follow up actions to monitor transference of skills and knowledge	Students see the relevance and applicability of the integrated module to their immediate and vocational lives.

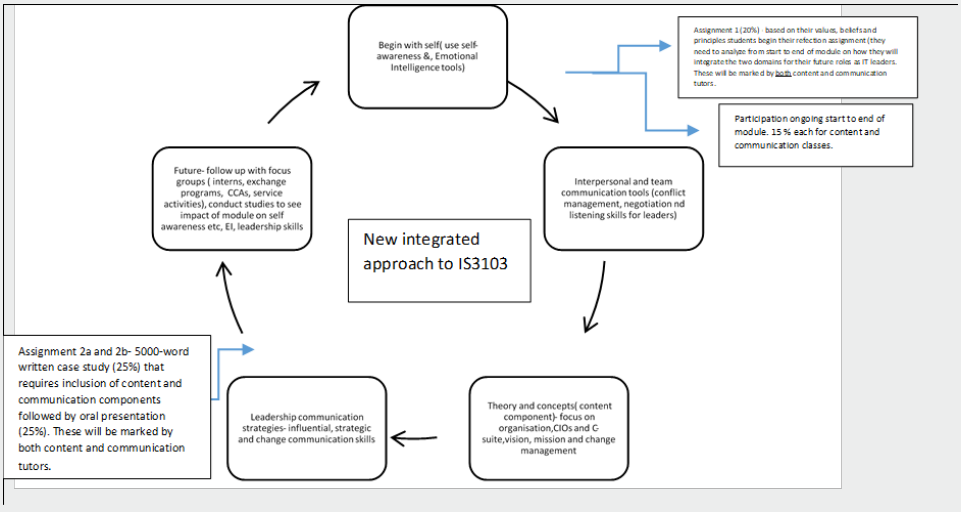

Figure 3. Suggested integrated module design for IS3103

A discussion session was then arranged by the communication coordinator with the program IS department head and co-coordinator. Briefly, Goleman, Boyatzis, & McKee's (2002) construct on emotional intelligence with a strong emphasis on self-awareness and interpersonal skills was used

to underpin the change in approach. The focus shifted to begin the module with self-awareness and to proceed to interpersonal and team skills. It was believed that this progression from the self to interpersonal relationships, teams and their everyday lives, and finally to managerial level leadership roles would enable the students to appreciate the module's relevance and meaningfulness. And by allowing them to choose the types of managerial leaders they want to become, the sense of ownership and relatedness to the module will be higher. After the first two stages (i.e., under the purview of the communication component), students are exposed to higher leadership roles covered in the content component. This is followed by the core communication skills that leaders need. The final segment is a follow-up focus group study to determine if these skills are applied in their academic, community, and vocational settings. Assignments were suggested to include both content and communication components to see the module as more wholesome than distinct. Suggestions were also presented on the need to use more systematic instruments to study students' predispositions and customized end module perceptions so that the coordinators could be more informed about their opinions on the content and communication aspects of the module as their learning preferences and styles. All the suggestions were approved by the head of IS department and co-coordinator. Most of these suggestions were implemented in the module's third iteration.

Additionally, the following were also created by the communication coordinator:

- one main course schedule (as opposed to our previous two) that clearly shows how each component supplements each other's sections
- new lesson objectives that emphasises integration
- new promotion video

Implications and recommendations

In this study, an integrated journey to teach leadership with leadership communication skills for IS/IT undergraduates was outlined, largely from a communicative perspective. The author is aware of this study's significant limitations. It is based on a newly embedded module on leadership for a relatively small group of students, from two semesters in one institution and a specialized group of IT/IS undergraduates. The findings are for the module as a whole comprising the content and communication components. These factors do render the findings as lacking depth and as not being generalizable across programs and institutions. However, the experience and the results do reveal useful information that could not have been otherwise realized.

First, the study discusses an innovative approach to integrating leadership content with communication skills in the IT/IS field, which is an emerging and indispensable field in this fast-changing world. The integrated leadership education involves two departments in a university setting, and the journey serves as a roadmap for collaborative efforts in leadership education efforts. The approach also presents an academic's experience, largely from a communicative perspective. This can be emulated or explored further to see if other leadership styles are more suited for the specific needs of IT/IS learners. Pedagogical methods, learners' learning and behavioral styles, results of the journey, and constraints that the author encountered in the journey, are aspects that can be improved or avoided by current or future leadership development efforts. For example, in this application, a largely constructive pedagogical style was used. It will be useful to study if other pedagogical styles have been successfully used or used in leadership education and, in particular, for IT/IS learners. Future research could also study the extent to which collaborators need to be cognizant of each other's expertise area in integrated efforts of leadership education and its impact on learning. Other types of leadership communication for IS leaders other than influential, strategic, and communication strands, could also be explored and

studied. Leadership educators could also consider both written and spoken mediums of leadership communication skills to contribute to leadership development.

Additionally, future research could also experiment if Lucas & Rawlins (2015) communication competency pivot (i.e., that was adapted and implemented in IS2101 Business and Technical Communication, which the author previously coordinated and facilitated) could be adapted to incorporate a sequential approach discussed in Seemiller's (2018) study. This could generate useful leadership communication competency markers. Future studies could also try to examine how leadership education, and with it, leadership communication is culture-specific. In this experience, for instance, it was interesting to see that some students were apathetic to the idea of leadership. It would be worthwhile to study if this type of learner mindset is unique to nationality, gender, age, domain-specific backgrounds, academic grades, and prior life experiences.

Additionally, it would be worthwhile to look into ways to raise awareness about leadership education among apathetic learners. It will also be valuable to study if students with previous leadership experiences are engaged better in leadership education programmes than those who do not have any. Or if students should complete "seminal leadership courses" grounded in leadership content (Cleverley-Thompson, 2018, p. 3) before they specialize in an integrated leadership programme. Preliminary insights from this small study can also spur further research on a larger-scale, and on the leadership development programme for IT/IS undergraduates. IT/IS leaders will continue to play a pivotal role and to help future leaders navigate more quickly and remain buoyant in this fast-changing age, more in-depth research needs to be carried out to expand the scholarship in this field. It will also be useful to study IT/IS practitioner's perspectives or applications of leadership education. Studies could also focus on other short-term or long-term interdepartmental or collaborative leadership education efforts across nations or educational institutions. Given the tech-focused background of IT/IS undergraduates, it will be interesting to find if using virtual environments in leadership education as opposed to face-to-face contact sessions (Hornet & Lee's 2017; Jenkins, 2018) will be well received or perhaps how technology can be used to enhance leadership communication. Future research could study if the adage, "less is more" applies in leadership education. In this application, long contact hours and a heavy workload were unpleasantly received by the students, and it will help to study if shorter programmes with lighter content yield the same or better results. The impact of class size on leadership education is another area that can be studied to see if they make a difference in leadership education.

Undeniably, exploring these avenues and continual engagements with relevant communities will help sharpen leadership development programs' offerings. These will ultimately help enrich scholarship in the field of IT/IS and, more widely, leadership education.

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